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Minimum
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No.
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/cgn2_6/ptodata/1/iaa/B_COMB.pep:*
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US-07-800-366-1
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US-08-284-393B-1
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US-09-116-594-2
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US-08-954-418-2	US-08-170-126-2	US-07-777-715-7	US-08-459-906-5	US-08-383-621-5	US-08-930-917A-18	US-08-806-121B-3	US-08-354-456A-6	US-08-875-811-61	US-08-875-811-59	PCT-US91-05826-2	US-07-932-915-2	US-08-155-888-2	US-08-818-562-2	5314995-7	US-09-522-217-111	US-08-759-628-8	US-09-012-366-3
Sequence 2, Appli	,		Sequence 5, Appli	Sequence 5, Appli	Sequence I8, Appi		Sequence 6, Appli	, 19	•	ъ	Sequence 2, Appli	Sequence 2, Appli	Sequence 2, Appli	Patent No. 5314995	Sequence III, App	Sequence 8, Appri	Sequence 3, Appli

## ALIGNMENTS

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RESULT 2
US-08-127-351-13
Sequence 13, Application US/08127351
Sequence 13, Application US/08127351
Patent NO. 5449761
Patent NO. 5449761
PAPLICANT: BELINKA Jr, BENJAMIN APPLICANT: COUGHLIN, DANIEL J.
APPLICANT: ALVAREZ, VERNON L.
APPLICANT: WOOD, RICHARD
TITLE OF INVENTION: METAL-BINDING
TITLE OF INVENTION: CONSTRUCTS
NUMBER OF SEQUENCES: 56
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: MOREAU, Jean-Couis
APPLICANT: MOREAU, Jean-Colaude
TITLE OF INVENTION: BIOLOGICAL APPLICATIONS OF NEW PEPTIDES OF
TITLE OF INVENTION: DERIVATIVES AND USE AS THERAPEUTIC AGENTS
TILE REFERENCE: 0660-0134-0
COURRENT APPLICATION NUMBER: US/09/116,594
CURRENT FILING DATE: 1998-07-16
NUMBER OF SEQ ID NOS: 2
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; FEATURE:
; OTHER INFORMATION: Description of Artificial
US-09-116-594-2
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Patent No. 6168785
                                                                                                                                                                                                                                                                                                                                                                                              Query Match
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Matches 30
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LENGTH: 31
TYPE: (PRT
ORGANISM: Artificial Sequence
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                                OBLON, SP
NEUSTADT,
P.C.
55 S. Jefferson
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                                                  MCCLELLAND,
Davis Highway, Suite 400
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Pred. No. 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/127,351
FILING DATE: 28-SEP-193
CLASSIFICATION: 534
ATTORNEY/AGENT INFORMATION:
NAME: Villacorta, Gilberto M.
REGISTRATION NUMBER: 34,038
REFERENCE-DOCKET NUMBER: 4980-004-44
TELECOMMUNICATION INFORMATION:
TELEFAX: (703) 413-3000
TELEX: 248855 OPAT UR
INFORMATION FOR*SEQ ID NO: 13:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Patent No.
                                                                APPLICATION NUMBER: US/08/480, FILING DATE: 07-06-95 CLASSIFICATION: 424 ATTORNEY/AGENT INFORMATION: NAME: VIllacorta, Gilberto M. NAME: VIllacorta, Gilberto M. NAME: VILLACORTA, GILDERTO M. NAME: VILLACORTA, GILDERTO M. NAME: VILLACORTA JA 028
REGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 26
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 684-1111
                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/NS-DOS
                                                                                                                                                            SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: METAL-BINDING TARGETED POLYPEPTIDE TITLE OF INVENTION: CONSTRUCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: COUGHI
APPLICANT: ALVARI
APPLICANT: WOOD,
                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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CITY: Alexandria
STATE: Virginia
                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: LOWE, PRICE, LeBLANC & BECKER STREET: 99 Canal Center Plaza, Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
TOPOLOGY: unknown
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Y: U.S.A.
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ALVAREZ, VERNON L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BELINKA Jr, BENJAMIN A.
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                                        2654-002A
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Pred. No. 3.4e-16;
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Matches
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/487,22
FILING DATE: 07-JUN-1995
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/127,35
FILING DATE: 28-SEP-1993
ATTORNEY/AGENT INFORMATION:
NAME: Villacorta, Gilberto M.
NAME: Villacorta, Gilberto M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
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TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO:
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SEQUENCE CHARACTERISTICS:
LENGTH: 50 amino acids
                                                                                                                                                                                                                                                                                        KEGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 4980-004-44
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 1/00
STREET: Arlington
STATE: Virginia
COUNTRY: U.S.A.
                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS
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OPERATING SYSTEM: PC-DA
SOFTWARE: PATENTIN Rela
CURRENT APPLICATION DATA:
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                                                                                                                                                 MOLECULE TYPE:
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APPLICANT: COUGHLIN, DAN
APPLICANT: ALVAREZ, VERN
APPLICANT: WOOD, RICHARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE:
                                                                                 Local Similarity
                                                                                                                                                                TYPE: amino acid
TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                           REGISTRATION NUMBER:
TELEPHONE:
                                                                                                                                                                                              LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: OBLON, SPIVAK, McCLELLAND, MAIER ADDRESSEE: NEUSTADT, P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity 100.
hes 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY:
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5593656
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                                                                                                                                                                                          50 amino acids
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                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BELINKA Jr, BENJAMIN A.
                                                                                                                                                                                                                                                                            (703) 413-3000
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                                                                              100.0%; Score 147; DB 1 100.0%; Pred. No. 3.4e-1
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Pred. No. 3.4e-16;
Pred. No. 3.4e-16;
                                                                 Mismatches
                                                                                               DB 1;
                                                                                           Length 50;
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                                                               Indels
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; MOLECULE TYPE: peptide
US-08-480-370-13
                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-817-787-15
                                                                                                                                                                                                                                                                                                                                                    Sequence 15, Appl. Patent No. 629435
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Best Local Similarity
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Sequence 14, APP-
Sequence 14, APP-
Sequence 15, APP-
Sequence 15,
                                                                                               GENERAL INFORMATION:
APPLICANT: Pack, Peter
APPLICANT: Lupas, Andrei
TITLE OF INVENTION: TARGETED HETERO-ASSOCIATION OF
TITLE OF INVENTION: RECOMBINANT PROTEINS TO MULTI-FUNCTIONAL COMPLEXES
NUMBER OF SEQUENCES: 36
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CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/
FILING DATE: 28-SEP-193
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (703) 413-2220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO:
                                       CORRESPONDENCE ADDRESS
ADDRESSEE: FISH & NI
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 50 amino acids
TYPE: amino acid
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REFERENCE/DOCKET NUMBER: 4980-004-44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Villacorta, Gilberto M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
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Y: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                        Application US/08817787
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1251 Avenue of the Americas
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1755 S. Jefferson Davis Highway, Suite 400
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ALVAREZ, VERNON L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WOOD, RICHARD
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                                       FISH & NEAVE
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GENERAL INFORMATION:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/817,787
FILING DATE: 23-SEP-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION UNMBER: PCT/EP95/04117
FILING DATE:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: 212-596-9090
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino/a
TOPOLOGY: lir
MOLECULE TYPE:
                                                                   SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
                                                                                                                                          COMPUTER READABLE FORM: MEDIUM TYPE: DISKETTE,
                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION:
TITLE OF INVENTION:
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PRIOR APPLICATION DATA:
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NAME: Haley Jr., James F.
REGISTRATION NUMBER: 27,7
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APPLICATION NUMBER: EP 9
FILING DATE: 20-OCT-1994
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                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                              CITY: Somerville STATE: New Jersey COUNTRY: U.S.A.
                FILING DATE: December 1, 1993
CLASSIFICATION: 530
                                                                                                    COMPUTER: IBM 386
OPERATING SYSTEM:
                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                STREET:
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5. 5473049
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)GY: linear
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                                                                                                                                                                                                                                                E: Kenneth A. Genoni, Esq.
Rt. 202-206 No. 5473049th/P.O. Box 2500
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Sabel, Walter
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                                                                                                                         IBM 386
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                                                                                                        WINDOWS 3.1
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                                                                                                                                                                                                                                                                                                                       Cystine Bridges
                                                                                                                                                                                                                                                                                                                                      Process For Obtaining Proinsulin Possessing Correctly Linked
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                                                  US/08/160,376A
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                                                                                                                                            3.5 INCH, 1.44 Mb STORAGE
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RESULT 8
US-08-389-487-8
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Query Match 100.0%; Score 147; DB 1; Best Local Similarity 100.0%; Pred. No. 7.6e-16; Matches 30; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 8, Application US/08389487 Patent No. 5663291
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INFORMATION FOR SEO ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 96 Anino Acids
TYPE: Anino Acid (AA)
                                                                                                                                                                                                                              FILING DATE:
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Einaudi, Carol P.
REGISTRATION NUMBER: 32,220
REFERENCE/DOCKET NUMBER: 0248
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-408-4000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                               TELEFAX: 202-408-4400 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/389,487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: (908) 231-4079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: GE P
FILING DATE: December 2,
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Process for Obtaining Insulin Having TITLE OF INVENTION: Correctly Linked Cystine Bridges NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
                                                                                     TOPOLOGY: 11
                                                                                                                                                                              SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 1300 I STATE: Washington STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Barbara V. Maurer, REGISTRATION NUMBER: 31, REFERENCE/DOCKET NUMBER:
                                                                                                                    TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Match 100.0%; Score 147; DB 1; Local Similarity 100.0%; Pred. No. 7.6e-16; es 30; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RY: United States of America
20005-3315
                                                                                                                                                          96 amino acids
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Sabel, Walter
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                                                                                                           linear
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                                                                                       peptide
                                                                                                                  single
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231-2255
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                                  Length 96;
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     Indels
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RESULT 9
US-07-800-366-1
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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TELEX: 200291 STRE UR
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 133 anino acids
                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Castle, Donald R
REGISTRATION UNMBER: 24,220
REFERENCE/DOCKET NUMBER: 4141
TELEOMMUNICATION INFORMATION:
TELEPHONE: (617)523-3400
TELEPHONE: (617)523-3400
TELEPHONE: (617)523-6440
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MEDJIM TYPE: Floppy disk
COMPUTER: LIBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                         APPLICANT: Ralph, Peter
APPLICANT: Martin, George
APPLICANT: Piatek, Michael
APPLICANT: Larrick, James W.
APPLICANT: Larrick, James W.
TITLE OF INVENTION: Multifunctional M-CSF Proteins and Genes Encoding
TITLE OF INVENTION: Therefor
NUMBER OF SEQUENCES: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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TITLE OF INVENTION: INTERLEUKIN-2 AND 5'-DEOXY-5-FLUOROURIDINE
                                         CORRESPONDENCE ADDRESS:
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nes 30; Conserv
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  STREET:
                      ADDRESSEE:
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E: CHIRON CORPORATION
Intellectual Property -
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                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 147; DB 1; ilarity 100.0%; Pred. No. 1.1e-15; Conservative 0; Mismatches 0;
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    R440, P.O. Box 8097
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RESULT 11
US-08-225-224-3
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            COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOSTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/225,224
FILING DATE: 8-APR-1994
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: 32.762
REGISTRATION NUMBER: 32.762
REGISTRATION NUMBER: 32.762
REGISTRATION NUMBER: 32.762
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Patent No. 5635599
GENERAL INFORMATION:
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NAME: MCGAIRIGLE Jr., Philip
REGISTRATION NUMBER: 31,395
REFERENCE/DOCKET NUMBER: 750.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (510) 601-2718
TELEPAX: (510) 655-3542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO:
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OPERATING SYSTEM: PC-POS/MS-DOS
SOFTWARE: PATENTIN Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/354,45
FILING DATE: 12-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 435
PRIOR APPLICATION UDDAR: US 07/995,338
PILING DATE: 21-DEC-1992
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: PASTAN, Ira
APPLICANT: KRBITMAN, ROBERT J.
TITLE OF INVENTION: CIRCULARLY PERMUTATED LIGANDS AND
TITLE OF INVENTION: CIRCULARLY PERMUTED FUSION PROTEINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 133 amino acid
                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend Khourie and Crew STREET: Steuart Street Tower, One Market Plaza
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                          STREET: Steuart Stre
CITY: San Francisco
STATE: California
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DLECULE TYPE: protein
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TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: Floppy disk
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linear
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                               WOLECULE TYPE: protein
US-08-318-193-89
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                                                             TELEFAX: (703)663-4109
TELEX: 899149
INFORMATION FOR SEQ ID NO: 89
SEQUENCE CHARACTERISTICS:
LENGTH: 133 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 89, Application US/08318193
Patent No. 5641663
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Best Local Similarity
Query Match
                                                                                                                                                        APPLICATION NUMBER: US 07/224,568
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 18740/116
TELECOMMUNICATION INFORMATION:
TELECAX: (703)883-4109
TELECAX: (703)683-4109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: (415) 543-9600
TELEFAX: (415) 543-5043
INFORMATION FOR SEO ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
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TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin Rel
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
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OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: USA
ZIP: 22313-0299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Alexandria
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MALEK, Lawrence T.
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OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY
STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROTEINS FROM STREPTOMYCES
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100.0%;
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Score 147;
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Length 133;
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US-08-284-393B-2
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                                                                                                                                                                                       sequence 2, Application US/08284393B
Patent No. 5696234
                                                                                                                                                                                                                                                                                                                                                                     Matches
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Best Local (
                                                                      GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: ZURAWSKI, GERARD
APPLICANT: ZURAWSKI, GERARD
TITLE OF INVENTION: MUTEINS OF MAMMALIAN CYTOKINES
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: DNAX Research Institute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: 415-496-1200 INFORMATION FOR SEQ ID NO: 1:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 133 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: linear MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-852-9196
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Zurawski, Sandra M. APPLICANT: Zurawski, Gerard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION:
                    STREET: 901 California Avenue CITY: Palo Alto STATE: California
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CITY: Palo Alto
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Ching, Edwin P. REGISTRATION NUMBER: 34,090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/0 FILING DATE: 01-AUG-1994
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Pred. No. 1.1e-15;
0; Mismatches 0;
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US-08-284-393B-3
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Best Local Similarity
Matches 30; Conserv
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: LBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                        CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,090
REFERENCE/DOCKET NUMBER: DX03
TELECOMMUNICATION INFORMATION:
TELEDPHONE: 415-852-9196
                                                                  TELEFAX: 415-496-1200
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                ZIP: 94304-1104
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,090
REFERENCE/DOCKET NUMBER: DX
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-852-9196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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CLASSIFICATION:
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                        STRANDEDNESS:
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       TOPOLOGY:
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linear
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Maximum DB seq
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                                                                                                                                                                                                                                                                                       Score
         of hits satisfying chosen parameters:
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Maximum Match 100%
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21: \SIDS1\gcgdata\geneseq\geneseq\emb1\AA1993.DAT: *
22: \SIDS1\gcgdata\geneseq\geneseq\emb1\AA1993.DAT: *
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Copyright (c) 1993 - 2002 Compugen Ltd
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AAP50053
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                                                                                              AAY51597
AAR11015
AAR06838
AAR48245
AAR68899
AAR78662
AAR722595
                                                                                                                                                                                                                                                                                                                                                           SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Search time 31 Seconds (without alignments) 111.074 Million cell updates/sec
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Human IL-2 derived
Human interleukin-
Human IIL-2 N-termi
Human IIL-2 N-termi
Human Interleukin-
Human pro-insulin
Fusion protein con
Interleukin-2 used
Sequence of an int
Sequence encoded b
Sequence of mature
                                                                                                                                                                                                                                                                                  Description
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<b>4</b>	44	3	42	41	40	39	38	37	36	35	34	33	32	<u>3</u> 1	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12
149	149	149	149	149	149	149	149	149	149	149	149	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152
98.0	98.0		98.0	•		98.0		98.0	•	98.0	•			100.0	100.0	100.0	•	•	100.0		•	00.	100.0	100.0		100.0		•	100.0	•	100.0	100.0	100.0
496	435	421	381	149	149	149	149	149	149	149	65	273	273	255	201	172	149	149	149	149	149	149	149	149	149	149	149	143	136	134	134	134	134
17	12	17	22	11	:	H	1	11	11	11	10	σ	6	σ	11	10	11	11	11	11	11	11	11	11	11	11	11	15	20	11	11	11	В
AAR95058	AAR11273	AAR95055	AAE12707	AAR07259	AAR07258	AAR07257	AAR07256	AAR07255	AAR07268	AAR07146	AAP91032	AAP50310	AAP50087	AAP50305	AAR06839	AAP94809	AAR07264	AAR07263	AAR07262	AAR07261	AAR07150	AAR07149	AAR07148	AAR07269	AAR07267	AAR07266	AAR07265	AAR50932	AAY49917	AAR05240	AAR05266	Ν	AAP70585
GAL4-DT-IL-2 multi	HSV-1 antigen/heat	IL-2-DETA-DGAL4 mu	Human bivPH1-IL-2			Recombinant Interl				Recombinant Interl	Human interleukin-	Interferon-gamma a	Conjugate of inter		Human IL-2 N-termi	Human interleukin				Recombinant Interl	Recombinant Interl		Recombinant Interl				Ē	tabl. Synthetic.	Human interleukin	of.	of	of	Sequence of human

## ALIGNMENTS

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RESULT 1
AAY51597
ID AAY5
XX AAY5
XX AAY5
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XX IL-2
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Novel cytokine peptides and antibody for preventing and/or treating undesirable immune reactions e.g. graft rejection and autoimmune disorders \,\cdot\,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IL-2;
graft
                                                                                                                                                        WPI; 2000-182403/16
N-PSDB; AAZ88837.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human IL-2 derived peptide IP130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16-JUL-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-MAY-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAY51597;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY51597 standard; Protein;
                                                                                                                                                                                                                                                                         'n,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         interleukin 2; human; IP130; immunosuppressive; antirheumatic;
rejection; autoimmune disorder; rheumatoid arthritis.
                                                                                                                                                                                                                                                                                                             Eckenberg R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              98US-0116594.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
 The sequence corresponds to the first 58 amino acid residues of human IL-2. It forms part of a fusion protein, linked to a heterologous protein. The heterologus protein is preferably gag or a fragment of gp 41 of HIV-1 or it is a fragment of gp 36 of HIV-2. Such fusion proteins can be used to detect antibodies to these proteins. See also AAQ10899-Q10903.
                                                                                                                                                                                                                                                            Novoa Perez LI, Machado Lahera JA,
Benitez Fuentes JV, Narciandi Diaz
Estrada Garcia MP, Garcia Suarez J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1; Page 54; 56pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human interleukin-2-derived stabiliser peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-MAY-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR11015 standard; Peptide; 58 AA
                                                                                                                                                       Method for expressing heterologous proteins - using vector contg. stabilising sequence
                                                                                                                                                                                                              N-PSDB; AAQ10898.
                                                                                                                                                                                                                              WPI; 1991-075192/11.
                                                                                                                                                                                                                                                                                                                                                                   03-AUG-1989;
                                                                                                                                                                                                                                                                                                                                                                                                   02-AUG-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EP416673-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
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                                                                                                                                                                                                                                                                                                                                  (INGE-) CENT ING GENETICA.
                                                                                                                                                                                                                                                                                                                                                                                                                                   13-MAR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   interleukin-2; IL-2; gag 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
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                                                                                                                        Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31 AA;
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                                                                                                                        10;
                                                                                                                                                                                                                                                                                                                                                                   89CU-0000149
                                                                                                                                                                                                                                                                                                                                                                                                   90EP-0202108.
                                                                                                                     18pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 152; DB 21; 100.0%; Pred. No. 2.3e-14; tive 0; Mismatches 0;
                                                                                                                        English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gp 41; gp 36; HIV detection.
                                                                                                                                                                                                                                                              RE, Rodriquez Reinoso JL;
Herrera Martinez LS;
                                                                                                                                                                                                                                                                                                Fernandez Maso JR;
                                                                                                                                                                            as
                                                                                                                                                                            fusion
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                                                                                                                                                                          protein,
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RESULT 4
AAR48245
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Best Local S
Matches 31
                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                         Immunoprotein MPB 70 encoding sequence may be encorporated into plasmid pT13S with an N-terminal fragment of human IL-2. The plasmid pt and the transform an expression system giving a fusion may be used to transform an expression system giving a fusion protein which may be used as a diagnostic agent for bovine
                                                                                                                                                                                                                                                                                                                                                                                           BCG bacteria derived immuno:protein MPB70 - can be used diagnostic agent used to determine bovine tuberculosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human IL-2 N-terminal transcript of plasmid pT13S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
non-coding recoptimisation;
                                                                                     AAR48245;
                                                                                                            AAR48245 standard; Protein;
                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Fig 2; llpp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1990-278851/37.
N-PSDB; AAQ05976.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-AUG-1990.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JP02195895-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mycobacterium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bovine tuberculosis; Interleukin-2; IL-2; plasmid pT13S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14-JAN-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR06838 standard; protein;
                                     Human Interleukin-2
                                                             12-JUL-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-JAN-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-JAN-1989;
                                                                                                                                                                                                                                                                                               tuberculosis infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (AJIN ) AJINOMOTO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local 31;
                                                                                                                                                                                                                      Match 100.0%;
Local Similarity 100.0%;
nes 31; Conservative 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
region; coding region; resonance; interaction; IL-2; on; degenerate sequence; plasmid pTl3SNco; pT9-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          58
                                                                                                                                                                                                                                                                        60 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 152; DB 12; ilarity 100.0%; Pred. No. 4.6e-14; Conservative 0; Mismatches 0;
                                                            (first entry)
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                                                                                                                                                                                                                        Score 152; DB 11;
Pred. No. 4.8e-14;
; Mismatches 0;
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                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   58;
                                                                                                                                                                                                                                                                                                                                  The plasmid
                                                                                                                                                                                                                                                 60;
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ARRESULT 5
ARAGEMENT ARACE
XX ARACE
XX ARACE
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XX Pro-
XX Pro-
XX Pro-
XX Homo
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene expression; regulation; recombinant protein production;
interleukin-2; interleukin-6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pro-insulin; A-chain; B-chain; C-chain; mercaptan; chaotropic agent.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human pro-insulin 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-MAR-1995
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22-JUN-1992;
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                                                                                                          02-DEC-1992;
                                                                                                                                                                                                                                                                                                                                  EP600372-A.
                                                                                                                                                                                                                                                                                                                                                                                                      Homo
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAR68899 standard;
                                                                                                                                                                                                                                                      08-JUN-1994
                              (FARH ) HOECHST AG
                                                                                                                                                                              25-NOV-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           oy the gene. (N
interleukin-6).
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)B; AAQ55629, AJ
                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (N.B. the sequence is also described
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            92FR-0007571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92FR-0007571.
                                                                                                      92DE-4240420
                                                                                                                                                                                  93EP-0118993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAQ55630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        peptide; 96 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 152; DB 15;
Pred. No. 4.8e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            disulphide;
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RESULT 6
AAR78662
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Best Local S
Matches 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pro-insulin is produced by treating recombinant precursor protein with a mercaptan to provide 2-10 SH residues per Cys residue, in presence of a chaotropic agent and in aq. medium of pH 10-11, treating the prod. with 3-50 g hydrophobic adsorber resin per 1 aq. medium of pH 4-7, isolating the adsorbed resin and pro-insulin and desorbing the pro-insulin. This method produces pro-insulin with correctly bonded Cys bridges. Compared with known methods it involves fewer stages (esp. no sulphitolysis or cyanogen bromide cleavage) and overall losses during purification are reduced, i.e. the process is quicker and gives better yields. Sequences of insulin chain A, B and C are given in AAR68895-97. Sequences of pro-insulin 1-4 are given in AAR68898-901.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      prodn. of pro-insulin with correct di:sulphide bridges - by
treating recombinant precursor protein with mercaptan in alkali
and in presence of chaotropic agent, then isolation on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 11; 15pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1994-177718/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gerl M,
                                                                                                           EP668292-A2
                                                                                                                                                                                                                                                                       Кеу
                                                                                                                                                                                                                                                                                                                      Proinsulin; post-translational modification; recombinant production; protein folding; conformation.
                                                                                                                                                                                                                                                                                                                                                          Fusion protein contg. proinsulin sequence 3.
                                                                                                                                                                                                                                                                                                                                                                                    03-APR-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR78662 standard; protein; 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
           (FARH ) HOECHST AG
                                  18-FEB-1994;
                                                           09-FEB-1995;
                                                                                   23-AUG-1995
                                                                                                                                                          Peptide
                                                                                                                                                                                 Region
                                                                                                                                                                                                                       Peptide
                                                                                                                                                                                                                                                           Region
                                                                                                                                                                                                                                                                                               Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                             AAR78662;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . Similarity 31; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ludwig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                  94DE-4405179
                                                           95EP-0101748
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                                                                                                                                                                                                                        45..74
                                                                                                                                                                                                                                                           Location/Qualifiers 41..44
                                                                                                                                                                                              /note=
                                                                                                                                                                                                             /label=
                                                                                                                                                                                                                                  /note= "a peptide of 4 amino acids"
                                                                                                                                                                                                                                                 /label-
                                                                                                                                               /label=
                                                                                                                                                                       ′label≖ X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Obermeier R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 152; DB 1
100.0%; Pred. No. 8e-14;
                                                                                                                                   "human insulin A-chain"
                                                                                                                                                                                              "human
                                                                                                                                                                                                                                                  R2
                                                                                                                                               Gly-(A2-A20)-R3
                                                                                                                                                                                                           R1-(B2-B29)-Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                              insulin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sabel W;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31
                                                                                                                                                                                                 B-chain*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96;
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RESULT 7
AAR22595
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local (
Hybrid protein comprising portion of the IL-2 binding domain useful for inhibiting unwanted immune responses e.g. autoimmu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                formula (II), X = Lys, Arg or a peptide of 2-35 amino acids contg. Lys or Arg at the N- and C-termini; Y = a natural amino acid; R1 = Phe or a bond; R2 = H, Arg, Lys, a peptide of 2-45 amino acids contg. Arg or Lys at the N- and C-termini; R3 = a natural amino acids acid; (A2-A20) and (B2-B29) are the insulin A- and B-chain sequences from human or other insulin. The proinsulin molecule, released by cyanogen bromide, is reacted with mercaptan at a ratio of 2-10 SH residues of mercaptan per Cys residue of proinsulin. The reaction takes place in the presence of a chaotropic auxiliary agent at the H10-11 and results in the presence of a chaotropic auxiliary agent at
                                             N-PSDB; AAQ23867.
                                                           WPI; 1992-150820/18
                                                                                          Murphy JR,
                                                                                                                                                                                                                                                                                                                   arthritis; allograft rejection; T-suppressor.
                                                                                                                                                                                                                                                                                                                              IL-2; hybrid; diphtheria; toxin; DT; proliferation; peripheral blood;
mononuclear cells; PBMC; auto-immune response; diabetes; rheumatoid;
                                                                                                                                                                                                                                                                                                                                                                                                               03-NOV-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR22595 standard; Protein; 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pH 10-11 and results in proinsulin with correctly linked cystine bridges. Reaction with trypsin and opt. carboxypeptidase B yields correctly folded insulin. The insulin is isolated by absortion on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Isolation of insulin that is correctly post-translationally processed - by reacting pro:insulin with a mercaptan in the of a chaotropic agent and purificn. after absorption to hyd
                                                                                                                                                                   28-SEP-1990;
                                                                                                                                                                                               27-SEP-1991;
                                                                                                                                                                                                                              16-APR-1992
                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                               Interleukin-2
                                                                                                                      (SERA-) SERAGEN INC.
(UYHO-) UNIVERSITY HOSPITAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hydrophobic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MAPTSSSTKKTQLQLEHLLLDLQMILNGINN 31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        contains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       general formula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Page 8;
                                                                                       Svrluga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sequence is that of a fusion protein, produced in E.coli ins an example of a proinsulin molecule corresp. ral formula R2-R1-(B2-B29)-Y-X-Gly-(A2-A20)-R3 (II). In
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                            used to make hybrid proteins.
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                                                                                                                                                                  90US-0590113
                                                                                                                                                                                               91WO-US07342.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Obermeier R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 152;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 16;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96;
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                                         Claim 6; Page 57-58;
                                                                       Prodn. of human interleukin 2-like polypeptide(s) instead of IL-2 for stimulating the immune system
                                                                                                                   WPI; 1984-232548/38.
N-PSDB; AAN40042.
                                                                                                                                                                 Fiers WC,
                                                                                                                                                                                                                           10-JUN-1983;
08-FEB-1983;
                                                                                                                                                                                                                                                                                                                                    EP118977-A.
                                                                                                                                                                                                                                                                                                                                                                                                           Diagnosis; therapy; cancer; tumour specific cytotoxic cell; multiple sclerosis; lupus; rheumatoid arthritis; herpes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence of an interlinsert of pSV-hIL2-0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAP40050 standard; Protein; 134\AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    e.g. diabetes and rheumatoid arthritis, or allograft rejection. It does not cause general immunosuppression, so avoids the resulting risk of life threatening infections. In the treatment of allograft rejection the hybrid protien spares donor-specific T-suppressor cells, which can thus proliferate and aid in prolonging graft survival. The hybrid protien does not need to be tailored to individual patients but can be used as a universal inhibiting agent. Therapy need not be continuous following allograft or an acute stage of autoimmune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the binding domain of IL-2 and an enzymatically inactive fragment of diphtheria toxin which does not include a functional DT generalised eukaryotic binding site (see AR26486). The hybrid protein is capable of stimulating the proliferation of peripheral blood mononuclear cells in vitro and of suppressing an immune response in a mammal in vivo. The hybrid protein allows the inhibition of an unwanted immune response such as autoimmune disease,
                                                                                                                                                                                             (BIOJ ) BIOGEN
                                                                                                                                                                                                                                                                         25-JAN-1984;
                                                                                                                                                                                                                                                                                                       19-SEP-1984.
                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAP40050;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         disease, but can be discontinued after a course of treatment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-JAN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig 1; 37pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            diseases and reaction to organ and tissue transplants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The interleukin-2 protein is part of a hybrid protein comprising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MAPTSSSTKKTQLQLEHLLLDLQMILNGINN 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MAPTSSSTKKTQLQLEHLLLDLQMILNGINN
                                                                                                                                                                                                                                                                                                                                                                                              disease;
                                                                                                                                                               Devos RR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             133 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                               ₹.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        interleukin-2-like polypeptide encoded
hIL2-0 or pSV-hIL2-1.
                                                                                                                                                                                                                           83GB-0015981.
83GB-0003383.
                                                                                                                                                                                                                                                                                                                                                                                                lymphokine.
                                                                                                                                                                                                                                                                         84EP-0300439
                                                                     stimulating
                                       69pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 152; DB 13;
Pred. No. 1.1e-13;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31
                                                                       etc.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA
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The DNA sequence is esp. selected from a human chromosomal gene bank, e.g. it is a hIL-2 related portion of lamda CH4A-ghIL-2-1 or -2, or

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RESULT 9
AAP50053
ID AAP5
XX AAP5
XX AAP5
XX AAP5
XX AAP5
XX AAP5
XX EAP1
XX EP1
XX EP
RESULT 10
AAP50855
ID AAP50
XX
AC AAP50
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                                                                                                                                                                                                                                                                                                 Matches
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA SQs coding for AAs 1-133 and 0-133 (an additional Met) of IL-2 are claimed, including the CDS of SQ I (see AAN50037) with/without 1 or 2 stop codons. The use of a synthetic gene is esp. convenient for expression in E. coli and allows modification of the AA SQ to improve peptide stability, solubility or activity. The synthetic gene was made from a series of oligonucleotides ligated to form four larger fragments designated IL 2-I to 2-IV (see AAN50038).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New biologically active interleukin 2 fragments and derivs. - a coding DNA sequences, intermediate oligo-nucleotide(s), hybrid plasmid(s) and transformed cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAP50053 standard; Protein; 134 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of lamda L47-ghIL-2-1, -2 or -3. Transformed hosts are also claimed, esp. E.coli, Ps spp., B.subtilis, B.stearothermophilus. IL-2-like polypeptides are also claimed.
  AAP50855;
                                                     AAP50855 standard;
                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Page 18-20; 33pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; AAN50037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1985-304738/49.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mertz R, Okazaki H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Engels J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-MAY-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28-MAY-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                04-DEC-1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EP163249-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence I of new biologically active interleukin 2 (IL-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-SEP-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAP50053;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (FARH ) HOECHST AG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Immunological agent; lymphokine
                                                                                                                                                                                              <u>_</u>
                                                                                                                                                                                                                                                 <u>_</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      سر
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MAPTSSSTKKTQLQLEHLLLDLQMILNGINN 31
                                                                                                                                                                                                                                              MAPTSSSTKKTQLQLEHLLLDLQMILNGINN 31
                                                                                                                                                                                           MAPTSSSTKKTQLQLEHLLLDLQMILNGINN
                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Uhlmann E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           134 AA;
                                                                                                                                                                                                                                                                                                                                                                                                          134 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 152; DB 5; ilarity 100.0%; Pred. No. 1.2e-13; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       84DE-3419995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          85EP-0113324
                                                     Protein;
                                                                                                                                                                                                                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wengenmayer F,
                                                        134
                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                              Score 152; DB 6;
Pred. No. 1.2e-13;
); Mismatches 0;
                                                        ₿
                                                                                                                                                                                              31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mullner H,
                                                                                                                                                                                                                                                                                                                                                 Length 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Winnacker EL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                 0;
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                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
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AAP61102
ID AAP6
XX AAP6
XX O9-M
XX Yeas
XX Yeas
XX Homc
XX PHOTO
XX EP17
XX E
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The inventors claim a manufactured gene for the prodn. analogues, and for polypeptides of IL-2 and analogues, methods for their recombinant production.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Microbial expression of interleukin II and analogues - manufactured DNA sequences to transform microorganisms % \left( 1\right) =\left\{ 1\right\} 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        03-AUG-1984;
10-AUG-1983;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09-AUG-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  W08500817-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-DEC-1991 (first entry)
Protein and peptide prodn.
                                                N-PSDB;
                                                  WPI; 1986-043554/07.
N-PSDB; AAN60198.
                                                                                                                         Oshima T,
                                                                                                                                                                                                                       27-JUL-1984;
                                                                                                                                                                                                                                                                  26-JUL-1985;
                                                                                                                                                                                                                                                                                                                                                                  EP171000-A.
                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Yeast expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence of mature human interleukin 2 (IL2) encoded by SUN-IL2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09-MAR-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAP61102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAP61102 standard; Protein; 134 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example; Table IV, Page 15-16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-PSDB; AAN50535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1985-062280/10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Souza LM, Stabinsky
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (AMGE-) AMGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-FEB-1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Immunotherapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence encoded by synthetic interleukin II (IL-2) gene
                                                                                                                                                                    (SUNR ) SUNTORY LTD
                                                                                                                                                                                                                                                                                                                    12-FEB-1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity 100 hes 31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MAPTSSSTKKTQLQLEHLLLDLQMILNGINN 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MAPTSSSTKKTQLQLEHLLLDLQMILNGINN
                                                                                                                         Tanaka S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               134 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lymphokine; interleukin-2; thymocyte mitogenesis.
                                                                                                                                                                                                                         84JP-0157038
                                                                                                                                                                                                                                                                       85EP-0109405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        84US-0635941.
83US-0521967.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84WO-US01252
                                                                                                                                                                                                                                                                                                                                                                                                                                                               vector; lymphokine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; S
100.0%; S
tive 0;
                                                                                                                         Tsujimoto
  Λq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 152; DB 6;
Pred. No. 1.2e-13;
; Mismatches 0;
immobilised yeast transformant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          39pp; English
                                                                                                                         ĭ
                                                                                                                           Nakazato
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of IL-2
and for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    γd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
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AAP70585
ID AAP7
XX
AC AAP7
XX
AC AAP7
DT 10-1
DT Sequ
XX
Lymg
XX
DE3:
XX
PD 04-:
XX
PT WP1
PT Hab
XX
PT WP1
PT We11
PT We11
PT We1
PT We1
PT We1
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PT We1
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CC Of
CC Z-a
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SO Seq
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Matches
                                                      Matches
                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                  Prefd. fusion proteins are of formula Met-X-Y-Z or Met-Z-Y-X. Where X-an AA sequence corresp. essentially to approx. the first 100 AAs of human interleukin-2; Y-a direct bond or bridge of genetically codable AAs which facilitates the cleaving off of the AA sequence Z; Z-a sequence of genetically codable AAs.
                                                                                                           Sequence
                                                                                                                                                                                                                                             Fusion proteins contg. interleukin 2 aminoacid sequences well as genes coding for these proteins, vectors contg. t genes, and host cells contg. the vectors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The inventors claim a method for the prodn. of a substance having the AA SQ of AAP61102. The method uses a synthetic DNA SQ (AAN60198). composition contg. a protein having human IL2 activity which is produced by the method is also claimed. The method uses yeast transformed by a secretory expression vector.
                                                                                                                                                                                                                    Example; pp 7-8; 20pp; German.
                                                                                                                                                                                                                                                                                                      WPI; 1987-157830/23.
N-PSDB; AAN70931.
                                                                                                                                                                                                                                                                                                                                               Habermann P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DE3541856-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence of human interleukin-2 (IL-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAP70585 standard; protein; 134 AA.
                                                                                                                                                                                                                                                                                                                                                                         (FARH ) HOECHST
                                                                                                                                                                                                                                                                                                                                                                                                                               27-NOV-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-JUN-1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lymphokine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10-APR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAP70585;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Fig 6 and Page 31; 53pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contg. expression vector which induces secretion of prod. from
cell into culture medium
                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
nes 31; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MAPTSSSTKKTQLQLEHLLLDLQMILNGINN 31
            MAPTSSSTKKTQLQLEHLLLDLQMILNGINN 31
MAPTSSSTKKTQLQLEHLLLDLQMILNGINN 31
                                                                   Similarity
                                                                                                           134 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                134 AA;
                                                   100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                              Wengenmayer
                                                                                                                                                                                                                                                                                                                                                                                                    85DE-3541856
                                                                                                                                                                                                                                                                                                                                                                                                                               85DE-3541856.
                                                                                                                                                                                                                                                                                                                                                                         ĀG
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                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                   Score 152; DB 8;
Pred. No. 1.2e-13;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 152; DB 7;
Pred. No. 1.2e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                            vectors contg. the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                             Length 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 134;
                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Þ
                                                   0;
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RESULT 13
AAR05267
ID AAR05
XXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cc sequence encoding this to generate analogues of IL-2 using the coligonucleotides in ANN92950-n92959. Claim I claims it wherein at least cc one of Ans 47, 51, 80, 81, 106, 119, 112, 119, 120, 123, 127, 129, CC 131, and 133 in the original amino acid sequence is replaced by a cc substitution, amino acid residue, or wherein at least two of the 8th, CC 47th, 48th, 51st, 54th, 80th, 81st, 106th, 109th, 112th, 119th, CC 47th, 48th, 51st, 54th, 80th, 81st, 106th, 109th, 132nd and CC 137d original amino acid residues are replaced by substitution CC amino acid residues. The following 10 analogues of IL-2 are CC specifically claimed: (Cys 8)-, (Cys 132)-, (Cys 80)-, (Cys 81)-, (Lys 106)-, (Lys 112)-, (Cys 132)-, (Cys 134)- IL-2. CC (Cys 81)-, (Lys 106)-, (Lys 112)-, (Cys 132)-, (Cys 134)- IL-2. CC Cavalently attached without damaging activity. These analogues are used to attack toxins, reporter gps. or antiviral or other therapeutic cpds., Corporating IL-2 conjugates for therapy, or specifically labelled IL-2 for develorment of sensitive historical assays.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1.4
1.4
1.4
Sequence
                                                                                                                                                                                                                                                                                Site directed mutagenesis procedures were carried out on the DNA
                                                                                                                                                                                                                                                                                                                                                          Improved interleukin-II analogues - \operatorname{\sf eg} with ability to attach toxins, reporter \operatorname{\sf gps}. or therapeutic
                                                                                                                                                                                                                                                                                                              Table 1; Page 25; 52pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Altrock B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Key
                             development of sensitive biological assays.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (AMGE-) AMGEN INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  05-JUL-1989;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence of naturally occuring human interleukin-2 (IL-2)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAR05267 standard; protein; 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO9000565-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Interleukin-2 (IL-2); biological assays.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAR05267;
                                                                                                                                                                                                                                                                                                                                                                                                                        1990-051690/07.
134
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Boone TC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Goldman
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       WC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Stabinsky
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Query Match

100.0%;

Score 152;

DB 11;

Length 134;

Local

Similarity

Pred. No.

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RESULT 14
AARO5266
AD AARO5
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          Site directed mutagenesis procedures were carried out on the DNA sequence encoding this to generate analogues of II-2 using the oligonucleotides in AAN92950-n92959. Claim I claims it wherein at 10 one of Aas 47, 51, 80, 81, 106, 109, 112, 119, 120, 123, 127, 129, 131, and 133 in the original amino acid sequence is replaced by a substitution amino acid residue, or wherein at least two of the 8th, 47th, 48th, 51st, 54th, 80th, 81st, 106th, 109th, 112th, 119th, 120th, 121st, 123rd, 127th, 129th, 130th, 131st, 132nd and 133rd original amino acid residues are replaced by substitution amino acid residues. The following 10 analogues of II-2 are specifically claimed: (Cys 8)-, (Gly 47)-, (Asp 51)-, (Cys 80)-, (Cys 81)-, (Lys 106)-, (Lys 112)-, (Cys 132)-, (Cys 134)- II-2. Analogues have been constructed to which other molecules can be
                                                                                                                                                                                                                                                                                                                                                  Improved interleukin-II analogues eg with ability to attach toxins,
                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; AAQ04811.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Altrock B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-JUL-1989;
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                                                                                                                                                                                                                                                                                           Disclosure; Table 1, Page
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                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO9000565-A
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    covalently
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117..13
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  without
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Goldman
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damaging
                                                                                                                                                                                                                                                                                         52pp; English.
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  activity.
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hes 0;
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These analogues
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    are used
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RESULT 15
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Best Local S
Matches 31
site directed mutagenesis procedures were carried out on DNA sequence encoding this to generate analogues of IL-2 using the oligonucleotides in AAN92950-cn92959. Claim I claims it wherein at least one of AAs 47, 51, 80, 81, 106, 109, 112, 119, 120, 123, 127, 129, 131, and 133 of the original amino acid sequence is replaced by a substitution amino acid residue, or wherein at least two of the 8th, 47th, 48th, 51st, 54th, 80th, 81st, 106th, 109th, 112th, 119th,
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                                                                                                                                                                                                    Disclosure; page 25; 52pp; English.
                                                                                                                                                                                                                                                                                                                                                    N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                         Altrock B,
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                                                                                                                                                                                                                                                                       Improved interleukin-II analogues -
eg with ability to attach toxins, reporter
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                                                                                                                                                                                                                                                                                                                                                                                                                         Boone TC,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
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12..19
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                                                                                                                                                                                                                                                                                                                                                                                                                           Kenny WC,
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L
                                                                                                                                                                                                                                                                          gps.
                                                                                                                                                                                                                                                                                                                                                                                                                           Stabinsky Y;
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CC 120th, 121st, 123rd, 127th, 129th, 130th, 131st, 132nd and CC 133rd original amino acid residues are replaced by substitution CC amino acid residues. The following 10 analogues of IL-2 are CC specifically claimed: (Cys 8)-, (Gly 47)-, (Asp 51)-, (Cys 80)-, (C (Cys 81)-, (Lys 106)-, (Lys 112)-, (Cys 132)-, (Cys 134)- IL-2. (Cys 81)-, (Lys 106)-, (Lys 112)-, (Cys 132)-, (Cys 134)- IL-2. (Cys 81)-, (Cys
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Result
No.
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           GenCore version 5.1.3 (c) 1993 - 2002 Compugen Ltd
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US-08-2817-787-15
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Sequence 2, Appli Sequence 8, Appli Sequence 13, Appli Sequence 13, Appli Sequence 13, Appli Sequence 15, Appli Sequence 15, Appli Sequence 15, Appli Sequence 16, Appli Sequence 17, Appli Sequence 17, Appli Sequence 18, Appli Sequence 19, Appli Sequence 11, Appli Sequence 12, Appli Sequence 13, Appli Sequence 13, Appli Sequence 14, Appli Sequence 15, Appli Sequence 16, Appli Sequence 17, Appli Sequence 18, Ap
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US-08-160-376A-5 US-08-160-376A-5 Sequence 5, Application US/08160376A Sequence 5, Application US/08160376A Sequence 5, Application US/08160376A PARITOLOUS CONTROL STATE APPLICANT: Obermeier, Ranier APPLICANT: Carl, Martin APPLICANT: Ludwig, Jurgen APPLICANT: Sabel, Walter TITLE OF INVENTION: Process For Obtaining Proinsulin TITLE OF INVENTION: Possessing Correctly Linked TITLE OF INVENTION: Cystine Bridges NUMBER OF SEQUENCES: 7 CORRESPONDENCE ADDRESS: ADDRESSEE: Kenneth A. Genoni, Esq. STREET: Rt. 202-206 No. 5473049th/P.O. Box 2500 CITY: Somerville	Query Match 100.0%; Score 152; DB 4; Length 31; Best Local Similarity 100.0%; Pred. No. 3.4e-17; Matches 31; Conservative 0; Mismatches 0; Indels Oy 1 MAPTSSSTKKTOLOLEHLLLDLQMILNGINN 31	RESULT 1 US-09-116-594-2 Sequence 2, Application US/09116594 Patent No. 6168785 GENERAL INFORMATION: APPLICANT: THEZE, Jacques APPLICANT: ECKENBERG, Ralph APPLICANT: MAZIE, Jean-Louis APPLICANT: MAZIE, Jean-Claude TITLE OF INVENTION: BIOLOGICAL APPLICATIONS OF NEW PEPTIDES OF TITLE OF INVENTION: BIOLOGICAL APPLICATIONS OF NEW PEPTIDES OF CURRENT APPLICATION NUMBER: US/09/116,594 CURRENT EPLICATION NUMBER: US/09/116,594 CURRENT ELING DATE: 1998-07-16 NUMBER OF SEQ ID NOS: 2 SOFTWARE: Patentin Ver. 2.1 SEQ ID NO 2 LENGTH: 31 TYPE: PRT ORGANISM: Artificial Sequence FEATURE: OTHER INFORMATION: Description of Artificial Sequence:peptide US-09-116-594-2	28 147 96.7 153 3 US-09-012-366-3 Sequence 30 147 96.7 153 4 US-08-759-628-8 Sequence 30 147 96.7 153 4 US-09-522-217-111 Sequence 31 147 96.7 153 6 5314995-7 Sequence 31 147 96.7 153 6 5314995-7 Sequence 32 147 96.7 157 478 3 US-08-155-888-2 Sequence 33 147 96.7 504 1 US-07-932-915-2 Sequence 34 147 96.7 504 1 US-07-932-915-2 Sequence 35 147 94.7 251 3 US-08-815-811-61 Sequence 36 144 94.7 251 3 US-08-875-811-61 Sequence 37 144 94.7 251 3 US-08-875-811-61 Sequence 39 132.5 87.2 127 3 US-08-385-621-5 Sequence 40 107 70.4 141 4 US-08-39-17A-18 Sequence 41 79 52.0 135 3 US-08-383-621-5 Sequence 42 79 52.0 1098 1 US-08-777-715-7 Sequence 45 79 52.0 1098 1 US-08-777-715-7 Sequence 45 79 52.0 1098 3 US-08-954-418-2 Sequence Sequence 55 Sequence 55 Sequence 55 Sequence 55 Sequence 56 Sequence 56 Sequence 57 Sequence
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Matches 31
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SEQUENCE CHARACTERISTICS:
LENGTH: 96 Amino Acids
TYPE: Amino Acid (AA)
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                                                                                                                       APPLICATION UMBER: US/08, FILING DATE:
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Einaudi, Carol P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWAKE: "OWNER OF THE PROPERTY OF THE PROPER
                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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REFERENCE/DOCKET NUMBER: HOI
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 231-4679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Obermeier, Rainer
APPLICANT: Gerl, Martin
APPLICANT: Ludwig, Jurgen
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FILING DATE: December 2, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Barbara V. Maurer, Esq.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: Process for Obtaining Insulin Having TITLE OF INVENTION: Correctly Linked Cystine Bridges NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETT
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NAME: Einaudi, Carol P.
REGISTRATION NUMBER: 32,220
REFERENCE/DOCKET NUMBER: 02481.1424-00000
PELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Washington STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: Finnegan, Henderson, Farabow, Garrett ADDRESSEE: Dunner STREET: 1300 I Street, N.W.
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mes 31; Conserv
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SOFTWARE: WORDPER
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RY: United States of America
20005-3315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Application US/08389487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ludwig, Jurgen
Sabel, Walter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
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                                                                                                                                                                                                                                                                                             US/08/389,487
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RESULT 4
5496924-55
; Patent No. 5496924
; PAPPLICANT: HABERMANN, PAUL; WENGENMAYER, FRIEDRICH
; APPLICANT: NO THYENTION: FUSION PROTEIN COMPRISING AN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5496924-55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 934,910
FILING DATE: 25-NOV-1986
APPLICATION NUMBER: 943,804
FILING DATE: 19-DEC-1986
SEQ ID NO:55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: FUSION PROTEIN INTERLEUKIN-2 FRAGMENT BALLAST PORTION NUMBER OF SEQUENCES: 56
                                                                                                                                                                                                                                                                                                               Sequence 13, Application US/08127351 Patent No. 5449761 GENERAL INFORMATION:
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Best Local Similarity
Matches 31; Conserv
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Best Local S
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: 377,313
FILING DATE: 10-JUL-1989
                                                                                                                                                               CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, McCLELLAND,
                                                                                                                                                                                                                APPLICANT: ALVAREZ,
APPLICANT: WOOD, RIC
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                APPLICANT:
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                                                                                               STREET: 1755 S. CITY: Arlington
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TYPE: amino acid
STRANDEDNESS: single
                                                     COUNTRY: U.S.A. ZIP: 22202
                                                                                     STATE:
                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 134
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FILING DATE: 28-DEC-1992
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                                                                                    Virginia
                                                                                                   3: P.C.
1755 S. Jefferson Davis Highway, Suite 400
                                                                                                                                                                                                                                                               BELINKA JI, BENJAMIN A COUGHLIN, DANIEL J. ALVAREZ, VERNON L.
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Pred. No. 1
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L.3e-16;
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US-08-480-367B-13
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                                                             INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
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TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                  NAME: Villacorta, Gilberto M. REGISTRATION NUMBER: 34,038 REFERENCE/DOCKET NUMBER: 2654 TELECOMMUNICATION INFORMATION: TELEPHONE: (703) 684-1111 TELEFAX: (703) 684-1124
                                                                                                                                                                                                                          CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
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 MOLECULE TYPE:
         LENGIH: 50 amino a
TYPE: amino acid
TOPOLOGY: unknown
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                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Alexandria
STATE: Virginia
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Local Similarity 100.0%; Pred. No. 3.0
Nes 30; Conservative 0; Mismatches
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REFERENCE/DOCKET NUMBER: 4980-004-44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Villacorta, Gilberto M. REGISTRATION NUMBER: 34,038
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ALVAREZ, VERNON L.
WOOD, RICHARD
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peptide
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n Release #1.0, Version #1.25
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RESULT 8
US-08-480-370-13
; Sequence 13, Application US/08480370
; Patent No. 5609847
; GENERAL INFORMATION:
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US-08-487-221A-13
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Best Local 9
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PRIOR APPLICATION NUMBER: U
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CURRENT APPLICATION DATA:
                                                                                                                                                                                                                    MOLECULE TYPE:
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ATTORNEY/AGENT INFORMATION:
NAME: Villacorta, Gilberto M.
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OPERATING SYSTEM:
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COMPUTER: IBM PC compati
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les 30; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Arlington
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                                                                                                                                                                                                                                             amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E: NEUSTADT, P.C.
1755 S. Jefferson Davis Highway, Suite 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WOOD, RICHARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUGHLIN, DANIEL J
ALVAREZ, VERNON L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BELINKA Jr, BENJAMIN A
                                                                                                                                                                                                                                  unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OBLON, SPIVAK, MCCLELLAND, MAIER NEUSTADT, P.C.
                                                                                                                                                                                                                    peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CONSTRUCTS
                                                                                                                                                 96.7%; Score 147; DB 1; 100.0%; Pred. No. 3.6e-1 tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96.7%; Score 147; DB 1; 100.0%; Pred. No. 3.6e-16; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          METAL-BINDING TARGETED POLYPEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DANIEL J.
                                                                                                                                                                                                                                                                                                                                                                                                                         US 08/127,351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/08/487,221A
                                                                                                                                                                             DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 50;
                                                                                                                                                                            Length 50;
                                                                                                                                                    0;
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                                                                                                                                                  Gaps
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COUGHLIN, DANIEL J. ALVAREZ, VERNON L. BELINKA Jr, BENJAMIN A.

PC-DOS/MS-DOS

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RESULT 9
US-08-817-787-15
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                                                                                                                                                                                                                                                                                                      Sequence 15, Application US/08817787 Patent No. 6294353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ouery Match 96.7%; S
Best Local Similarity 100.0%; Matches 30; Conservative 0;
                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (703) 413-300
TELEPAX: (703) 413-2220
TELEX: 24885 OPAT UR
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                    TITLE OF INVENTION: TARGETED HETERO-ASSOCIALION OF TITLE OF INVENTION: RECOMBINANT PROTEINS TO MULTI-FUNCTIONAL COMPLEXES NUMBER OF SEQUENCES: 36
                                                                                                                                                                                                                                            APPLICANT: Pack, Peter APPLICANT: Lupas, Andrei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 28-SEP-1993
ATTORNEY AGENT INFORMATION:
NAME: Villagett City Control (1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Re-lease #1.0, Version #1.
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: CONSTRUCTS NUMBER OF SEQUENCES: 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FITLE OF INVENTION:
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                                                             COUNTRY: U
ZIP: 10020
                                                                                               STREET: 1251 A:
CITY: New York
STATE: New Yor!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/480,370 FILING DATE:
                                                                                                                                 ADDRESSEE: FISH & NEAVE STREET: 1251 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: Arlington STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Villacorta, Gilberto M. REGISTRATION NUMBER: 34,038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET:
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                                                                                               New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1755 S. Jefferson Davis Highway, Suite 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      50 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OBLON, SPIVAK, McCLELLAND, MAIER
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Pred. No. 3
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RESULT 10
US-07-800-366-1
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                                                                                                                                COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/800,366
FILING DATE: 19911127
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Castle, Donald R
REGISTRATION NUMBER: 24,220
REGISTRATION NUMBER: 24,220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 30; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1, Application US/07800366 Patent No. 5250296
TELEPHONE: (617)523-340
TELEFAX: (617)523-6440
TELEX: 200291 STRE UR
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION: APPLICANT: OOTSU,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
                                                                               REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)523-3400
                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: IMMUNOSTIMULANT AGENT CONTAINING
TITLE OF INVENTION: INTERLEUKIN-2 AND 5'-DEOXY-5-FLUOROURIDINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 88 amino acids
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APPLICATION NUMBER: EP 9
FILING DATE: 20-OCT-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Rel
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 130 |
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: 212-596-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: FILING DATE: 23-SE
                                                                                                                                                                                                                                                                                                                                                                                   ZIP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Haley Jr., James REGISTRATION NUMBER: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                     02109
                                                                                                                                                                                                                                                                                                                                                                                                                        Massachusetts
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; MOLECULE TYPE: US-07-800-366-1
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US-08-354-456A-5
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Matches
                                                                   Query Match
Best Local Similarity
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                                                         Matches
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                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO:
                                                                                                                            STRANDEDNESS:
TOPOLOGY: lin
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tent No.
                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 12-DEC-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/995,338
FILING DATE: 21-DEC-1992
                                                                                                                                                                                                                                                                  NAME: McGarrigle Jr., Philip L.
REGISTRATION NUMBER: 31,395
REFERENCE/DOCKET NUMBER: 750.003/32387
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/0
FILING DATE: 12-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: Intellecti
CITY: Emveryville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
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les 30; Conserv
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                                                                                                                                                                     amino acid
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                                                                                                                                                                                 133 amino acids
                                                                                                                                                                                                                                          (510) 655-3542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Larrick, James W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Martin, George
Piatek, Michael
                                                         Conservative
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                                                                                                                                         linear
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                                                96.7%; Pr
100.0%; Pr
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                                                                     Score 147; 1
Pred. No. 1
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                                                        Mismatches
                                                                   .2e-15;
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                                                                               Length 133;
                                                        Indels
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RESULT 12

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                                                                                                                                                                                                                                                                                                     RESULT 13
                                                                                                                                                                                                                                              Sequence 89, App. ... Sequence 89, App. ... 5641663
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Best Local !
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                                                                                                                                                                                                                                   GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO: (
SEQUENCE CHARACTERISTICS:
LENGTH: 133 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Weber, Ellen L.
REGISTRATION UNMBER: 32,762
REFERENCE/DOCKET NUMBER: 1528
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 543-9600
                                                                                                                                                           APPLICANT: GARVIN, Robert T.
APPLICANT: MALEK, Lawrence T.
TITLE OF INVENTION: AN EXPRES
TITLE OF INVENTION: OF BIOACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: PASTAN, ITA
APPLICANT: KREITMAN, ROBERT J.
TITLE OF INVENTION: CIRCULARLY
TITLE OF INVENTION: CIRCULARLY
                                                                                      NUMBER OF SEQUENCES: S
                                                                                                                         TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: San Francisco
STATE: Californ'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: unl
TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/
FILING DATE: 8-APR-1994
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: Protein LOCATION: 1..133
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COUNTRY:
                    STATE:
                                    CITY: Alexandria
                                                   STREET:
                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                       3, Application US/08225224
5. 5635599
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                Virginia
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                                                   1800 Diagonal Road, Suite 500
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SYSTEM: PC-DOS/MS-DOS
                                                                         Foley & Lardner
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                                                                                                                                                                                                                                                                                                                                                                                                                                            96.7%; Score 147; DB 1: 100.0%; Pred. No.:1.2e-
                                                                                                                        OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS PROTEINS FROM STREPTOMYCES
                                                                                                                                                                           AN EXPRESSION SYSTEM FOR THE SECRETION
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COMPUTER READABLE FORM: MEDIUM TYPE: Floppy

Floppy disk

COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS

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RESULT 14
US-08-284-393B-1
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Best Local Similarity
Matches 30; Conserv
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/935
FILING DATE:
APPLICATION NUMBER: US 07/224
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 1874
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)836-9300
                                    NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,090
REFERENCE/DOCKET NUMBER: DX03
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-852-9196
TELEFAX: 415-496-1200
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                    INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                   OPERATING STATEMENT Release #1.0, ...
CURRENT APPLICATION DATA:
CURRENT APPLICATION UMBER: US/08/284,393B
                                                                                                                                                                                                                                                                        COUNTRY: USA
ZIP: 94304-1104
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SEQUENCE CHARACTERISTICS:
                                                                                                                                                    APPLICATION NUMBER: US/08
FILING DATE: 01-AUG-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 133 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                              CITY: Palo Alto
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Zurawski, Gerard
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                                                                                                                                                                                                                                                      Release #1.0, Version #1.30
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Search completed: October 25, Job time: 15 secs
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US-08-284-393B-2
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Patent No. 5696234
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Best Local Similarity. 100.
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                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTMARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/284,393B
FILING DATE: 01-AUG-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 943U4 1... COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
CONTINE TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: DX
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-852-9196
                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,
                                                                                                                                                                                                  TOPOLOGY: 1: MOLECULE TYPE:
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CORRESPONDENCE ADDRESS:
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MOLECULE TYPE: peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                TYPE:
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CITY: Palo Alto
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                                                          APTSSSTKKTQLQLEHLLLDLQMTLNGINN 30
                                                                                                                       Similarity 100
30; Conservative
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                                                                                                                                                                                                                  linear
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100.0%; Pred. No. 1
                                                                                                                                     96.7%; Score 147; DB 1; 100.0%; Pred. No. 1.2e-1
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              2002, 15:49:43
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Maximum Match
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 Pred. No.
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30
46	46	46	46	46	46	46.5	46.5	46.5	47	47	47	47	47.5	47.5	47.5
30.3	30.3	30.3	30.3	30.3	30.3	30.6	30.6	30.6	30.9	30.9	30.9	30.9	31.2	31.2	31.2
614	571	516	380	323	293	466	211	159	1964	1008	557	398	938	938	244
N	N	N	٦	2	N	2	2	2	Ν	N	N	Ν	N	N	2
T18745	нв2355	B64551	C37760	H90434	A71946	E90228	C84888	T05656	A59282	T41244	F89839	B70209	H72074	F86548	T11685
hypothetical prote	peptide ABC transp	oligopeptide ABC t	galactokinase (EC	hypothetical prote	hypothetical prote	amino acid specifi	hypothetical prote	hypothetical prote	nonmuscle myosin I	SEC14 protein homo	hypothetical prote	conserved hypothet	polymorphic membra	polymorphic outer	hypothetical prote

C;Species: Homo sapiens (man)
C;Jate: 11-Aug-1983 \*sequence\_revision 11-Aug-1983 \*text\_change 08-Dec-2000
C;Jate: 11-Aug-1983 \*sequence\_revision 11-Aug-1983 \*text\_change 08-Dec-2000
C;Accession: A01849; A21192; A20961; S31209; A93297; A90113; A93478; I56518; I73624;
R;Holbrook, N.J.; Lieber, M.; Crabtree, G.R.
Nucleic Acids Res. 12, 5005-5013, 1984
A;Title: DNA sequence of the 5' flanking region of the human interleukin 2 gene: home A;Reference number: A93524; MUID:84247353
A;Accession: A01849 A;Cross-references; EMBL:Z14955
A;Note: this sequence is shown from the beginning of th A;Note: this sequence is shown from the beginning of the R;Taniguchi, T.; Matsui, H.; Fujita, T.; Takaoka, C.; K Nature 302, 305-310, 1983
A;Title: Structure and expression of a cloned cDNA for A;Reference number: A93297; MUID:83167472
A;Accession: A93297 A;Cross-references: GB:K02056; NID:g186302; PIDN:AAAA98792.1; PID:g386819
R;Laabi, Y.; Gras, M.P.; Carbonnel, F.; Brouet, J.C.; Berger, R.; Larsen, C.J.; Tsapi EMBO J. 11, 3897-3904, 1992
A;Title: A new gene, BCM, on chromosome 16 is fused to the interleukin 2 gene by a t(A;Reference number: S31208; MUID:93010984
A;Accession: S31209 A;Cross-references: GB:X00695; GB:X00200; GB:X00201; R;Fujita-T.; Takaoka, C.; Matsui, H.; Taniguchi, T. proc. Natl. Acad. Sci. U.S.A. 80, 7437-7441, 1983 A;Title: Structure of the human interleukin 2 gene. A;Reference number: A21192; MUID:84170243 A;Accession: A21192 A;Molecule type: mRNA .
A;Residues: 1-153 <TAN>
A;Residues: 1-153 <TAN>
A;Residues: 1-153 <TAN>
A;Cross-references: GB:V00564; NID:g33780; PIDN:CAA23827.1; PID:g33781
A;Experimental source: leukemic T-cell line, Jurkat-111, Cloned from Jurkat-FHCRC R;Maeda, S; Nishino, N.; Obaru, K.; Mita, S.; Nomiyama, H.; Shimada, K.; Fujimotc Biochem. Biophys. Res. Commun. 115, 1040-1047, 1983
A;Title: Cloning of interleukin 2 mRNAs from human tonsils. R;Holbrook, N.J.; Smith, K.A.; Fornace Jr., Proc. Natl. Acad. Sci. U.S.A. 81, 1634-1638, A;Title: T-cell growth factor: complete nucl A;Reference number: A20961; MUID:84170356 A;Accession: A20961 A;Molecule type: DNA
A;Residues: 1-153 <FUJ>
A;Residues: 1-153 <FUJ>
A;Cross-references: GB:J00264; NID:g186294; PIDN:AAD48509.1; PID:g5729676
A;Cross-references: GB:J00264; NID:g186294; PIDN:AAD48509.1; PID:g5729676 A; Molecule type: DNA A; Residues: 1-153 <HOL> N; Alternate names: IL-2; T-cell growth factor A; Molecule type: mRNA A; Residues: 11-117 <LAA> A; Molecule type: DNA A; Residues: 1-153 <HO2> interleukin-2 precursor [validated] - human nucleotide sequence A.J.; 1984 of the human interleukin 2 gene: homo of the fragment to the chromosomal C.; Kashima, N.; Yoshimoto, R.; Ha GB:X00202; NID:g33783; PIDN:CAA2 human interleukin-2. and organization R.L.; Crabt of the

Fujimoto,

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A;Cross-references: GB:M22005; NID:g186300; PIDN:AAA59140.1; PID:g386818 A;Note: mutation of Phe-42 to Ala reduced binding to the II-2 receptor 5-R;Robb, R.J.; Kutny, R.M.; Panico, M.; Morris, H.R.; Chowdhry, V. Proc. Natl. Acad. Sci. U.S.A. 81, 6486-6490, 1984 A;Title: Amino acid sequence and post-translational modification of human A;Reference number: A94009; MUID:85038540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type:
A; Residues: 21-15
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A; Residues: 'M', :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:M13879; NID:g186305; R;Weir, M.P.; Chaplin, M.A.; Wallace, D.M.; Biochemistry 27, 6883-6892, 1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Title: Promoter region of interleukin-2
A; Reference number: I57603; MUID:87064618
A; Accession: I57603
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Biomed. Res. 6, 197-205, 1985
A:Title: Organization of the DNA regions flanking the human interleukin 2
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A:Experimental source: tonsillar mononuclear cells
R:Devos, R.; Plaetinck, G.; Cheroutre, H.; Simons, G.; Degrave, W.; Taver Nucleic Acids Res. 11, 4307-4323, 1983
A:Title: Molecular cloning of human interleukin 2 cDNA and its expression A:Reference number: A93478; MUID:83246551
     A; Reference
                                                        A; Title:
                                                                                                        R; Conradt,
                                                                                                                                                                                    A; Note:
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A; Residues: 1-68 < RE3>
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A; Residues: 1-68 < RE2>
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A; Accession: 152528
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R;Elzenberg, O.; Faber-Elman, A.; Lotan, M.;

J. Neurochem, 64, 1928-1936, 1995

A;Title: Interleukin-2 transcripts in human
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A; Residues: 1-153 <DEV>
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A; Residues: 1-152 <EIZ>
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A;Accession: I56518
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                                                                           Note: heterogeneaty in Jurkat-derived IL-2 is primarily due to differences in lacking 21-Ala (FT-Il2-A and FT-IL2-B) and 22-Pro (FT-IL2-B) CONTROL, H.S.; Nintz, M.; Dittmar, K.E.J.; Lindenmaier, W.; Hoppe, J.; Haus. Biol. Chem. 264, 17368-17373, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Status: translated from GB/EMBL/DDBJ
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Residues: 1-153 <MAE>
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  A34463;
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MUID:90008901
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Dykes, C.W.; Hobden, A.N.
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                                                                                                                         interleukin 2 precursor - cat
C;Species: Felis silvestris catus (dome
C;Date: 03-Feb-1994 #sequence_revision
                  R;Cozzi, P.J.; Padrid, P.A.; Takeda, J.; Alegre, I
Biochem. Biophys. Res. Commun. 194, 1038-1043, 19
A;Title: Sequence and functional characterization
                                                                        C;Accession: JN0698
R;Cozzi, P.J.; Padr
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N;Alternate names: IL-2; T-cell growth factor
N;Species: Hylobates lar (common gibbon, white-handed gibbon)
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_chang
C;Accession: A94067; A01849
R;Chen, S.J.; Holbrook, N.J.; Mitchell, K.F.; Vallone, C.A.; G
Proc. Natl, Acad. Sci. U.S.A. 82, 7284-7288, 1985
A;Title: A viral long terminal repeat in the interleukin 2 gend
A;Reference number: A94067; MUID:86042650
A;Accession: A94067
A;Molecula ****
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C; Superf
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F;23/Binding site:
F;78-125/Disulfide
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A:Introns: 49/3; 69/3; 117/3
C:Superfamily: interleukin-2
C:Keywords: cytokine: 91ycopi
F:1-20/Domain: signal sequence
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A:Residues: 21-35 <CON>
A:Residues: 10-35 <CON
A:Residues: 1
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A;Experimental source: leukemia cell line MLA 144; ATCC TIB 201
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A; Residues: 1-153 <CHE>
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A;Cross-references: GDB:119344;
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                                                                                                                                                   Matches
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                                                                                                                                                                                      Score 147;
Pred. No.
                                                                                                                                                                                                                                                                                                       predicted
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Pred. No.
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                                                                                                                                                                                                                         DB 1;
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silvestris catus (domestic

cat)

03-Feb-1994 #text\_change 16-Jul-1999

Yuhki, N.; Leff, A.R

P.A.; Takeda, J.; Alegre, M.L.; Commun. 194, 1038-1043, 1993

of feline

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N;Alternate names: IL-2; T-cell growth factor
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 16-Jul-1999
C;Accession: S16241; S15473
R;Goodall, J.C.; Emery, D.C.; Bailey, M.; English, L.S.; Hall, L.
Biochim. Biophys. Acta 1089, 257-258, 1991
A;Title: cDNA cloning of porcine interleukin 2 by polymerase chain reaction. A;Reference number: S16241; MUID:91274360
A;Accession: S16241; MUID:91274360
A;Accession: S16241
A;Molecule type: mRNA
A;Residues: 1-154 <GOO>
A;Cross-references: EMBL:X56750; NID:g1991; PIDN:CAA40071.1; PID:g1992
   A;Description: Molecular cloning of porcine interleukin 2 cDNA by the particle interleukin 2 cDNA construction interleukin 2 country interleukin 2 cDNA by the particle 
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A; Title: Sequence of rat interleukin 2 and anomalous binding A; Reference number: A45882; MUID:89339608
A: Accession: A45882
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A; Status: nucleic acid sequence
A; Molecule type: mrNA
                                                                                                                                                                                                                                                                                                R;Lefevre, F.
submitted to the EMBL Data Library, March 1991
submitted to the EMBL Data Library, March 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: GB:M22899; NID:g204909; PIDN:AAA41427.1; PID:g204910 C;Superfamily: interleukin-2
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C;Species: Rattus norvegicus (Norway rat)
C;Date: 26-Apr-1989 #sequence_revision 26-Apr-1989 #text_change 16-Jul-1999
C;Accession: A45882; A31278
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A; Residues: 1-155 <MCK>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   interleukin-2 precursor -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Interleukin-2 precursor - rat
Keywords: cytokine; glycoprotein; growth factor; immunoregulation; T-cell;1-20/Domain: signal sequence #status predicted <SIG>;21-154/Product: interleukin-2 #status predicted <MAT>
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; Pred. No. 5.6e
4; Mismatches
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1.6e-09;
hes 3;
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Interleukin-2 - Mongolian jird
C:Species: Meriones unguiculatus (Mongolian jird)
C:Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 16-Jul-1999
C:Accession: S33509
                                                                                                                                                                                                                                                                                                                                                                                                                                                             R:Tavernor, A.S.; Butcher, G.W. submitted to the EMBL Data Library, November 1992 A;Description: cDNA cloning of equine interleukin-2 by polymerase chain reaction. A;Reference number: S31391 A;Accession: S31391
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A;Residues: 1-155 <MAI>
A;Cross-references: EMBL:X68779; NID:g577588; PIDN:CAA48679.1; PID:g311638
C;Superfamily: interleukin-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                submitted to the EMBL Data Library, October 1992 A; Description: Cross-species PCR cloning of Jird A; Reference number: $33509
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S33509
R;Rimstad, E.
submitted to the EMBL Data Library, November 1993
A;Description: The molecular cloning and expressi
A;Reference number: S38662
A;Accession: S38662
                                                                                                     C;Species: Capra aegagrus hircus (domestic goat)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 16-Jul-1999
                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: EMBL:x69393; NID:g1076; PIDN:CAA49190.1; PID:g1077 C;Superfamily: interleukin-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Accession: S31391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Equus caballus (domestic horse)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
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                                                                                        C; Accession:
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                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
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                                                                                                                                          interleukin-2 -
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|21 APTSSPAKEAQQYLEQLLLDLQQLLRGINN, 50
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17; Conserv
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66.7%;
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56.7%;
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Pred. No. 7
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Pred.
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No.
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3e-06;
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7.8e-07;
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                                      of caprine interleukin
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C;Species: Bos primigenius taurus (cattle)
C;Date: 16-Aug-1996 #sequence_revision 16-Aug-1996 #text_change 16-Jul-1999
C;Accession: 145913; S21470; S20761
R;Cerretti, D.P.; McKereghan, K.; Larsen, A.; Cantrell, M.A.; Anderson, D.;
Proc. Natl. Acad. Sci. U.S.A. 83, 3223-3227, 1986
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145913
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A;Molecule type: mRNA
A;Residues: 1-155 <GOO>
A;Residues: 1-155 <GOO
A;Cross-references: EMBL:X53934; NID:g1281; PIDN:CAA37881.1; PID:g1282
R;Seow, H.F.; Rothel, J.S.; Radford, A.J.; Wood, P.R.
Nucleic Acids Res. 18, 7175, 1990
A;Title: The molecular cloning of ovine interleukin 2 gene by the polymerase chain react A;Reference number: S13102; MUID:91088336
A;Accession: S13102
          A;Cross-references: GB:M12791; NID:g163204; PIDN:AAA30586.1; PID:g163205 R;Anikeeva, N.N.; Vinogradova, T.V.; Votoshin, O.N.
                                                                 A; Molecule type: mRNA
A; Residues: 1-155 < CER>
                                                                                                                                          A:Reference number: I45913; MUID:86205869
A:Accession: I45913
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A; Residues: 21-153 <BUJ>
A; Cross_references: EMBL; X60148
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A;Title: CDNA cloning of ovine interleukin 2 by PCR A;Reference number: S11488; MUID:91016933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 21-Nov-1993 #sequence_revision 10-Nov-1995 C;Accession: S11488; S13102; S15517
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A:Residues: 1-155 <RIM>
A:Cross-references: EMBL:X76063; NID:g416002; PIDN:CAA53664.1; PID:g416003
C;Superfamily: interleukin-2
                                                                                                                                                                                     A; Title: Cloning, sequence,
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                                                                                                              A;Status: preliminary; translated from GB/EMBL/DDBJ
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Best Local Similarity
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APTSSSTGNTMKEVKSLLLDLQLLLEKVKN 50
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Pred. No.
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N;Alternate names: II-2; T-cell growth factor (TCGF)
C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 21-Jul-2000
C;Accession: A93550; A54490; A94064; I48597; A01850; I84713
R;Fuse, A.; Fujita, T.; Yasumitsu, H.; Kashima, N.; Hasegawa, K.; Taniguchi.
                                                                                                                                interleukin-2 precursor -
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A:Cross-references: EMBL:X73040
C;Superfamily: interleukin-2
C;Reywords: cytokine; glycoprotein; growth factor; lymphokine; T-cell
F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-63/Product: interleukin-2 #status predicted <MAT>
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Nature Genet. 4, 404-409, 1993
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R;Matcsanz, F.; Alcina, A.; Pellicer, A.
Biochim. Biophys. Acta 1132, 335-336, 1992
A;Title: A new cDNA sequence for the murine interleukin-2 gene A;Reference number: S27205; MUID:93041941
A;Accession: S27205
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submitted to the EMBL Data Library, April 1993
A:Reference number: S37289
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C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C;Accession: S37289; S27205; S36162; S24936
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A; Residues: 1-50 <GHO>
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A; Residues: 1-63 < MATE>
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A; Residues: 1-169 < TOD>
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A; Residues: 1-22 <AN2>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Cross-references: EMBL:X17201; NID:g452; PIDN:CAA35062.1; PID:g453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Reference number: S21470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           submitted to the EMBL Data Library, December 1989
                                                                                                                                                                                                                                                                                                                                                                                                                           R.Ghosh. S.: Palmer, S.M.; Rodrigues, N.R.; Cordell, H.J.; Hearne, C.M.; Cornall,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  interleukin-2 precursor -
                                                                                                                           Query Match
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29
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SPTSSSTAEAQQQQQQQQHLEQLLMDLQELLSRMEN
                                                                                     l Similarity
17; Conserv
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1 Similarity 53.3%;
16; Conserva+:...
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                                                                                   Conservative
                                                                                                     45.48;
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Pred. No.
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                                                                                                  Score 69; DB 2;
Pred. No. 0.009;
                                                                            Pred. No. 0.005; Mismatches
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mouse

K.; Taniguchi,

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R:YOKOGA, T.; Arai, N.; Lee, F.; Rennick, D.; Mosmann, T.; Arai, K.

Proc. Natl. Acad. Sci. U.S.A. 82, 68-72, 1985

A;Title: USe of a cDNA expression vector for isolation of mouse interleukin 2 cDNA clone A; Reference number: A94064

A; Reference number: A94064

A; Roccession: A94064

A; Cross-references: GB:K02292; NID:g198330; PIDN:AAA39289.1; PID:g309404

A; Residues: 1-169 < COK

A; Rishima, N.; Nishi-Takaoka, C.; Fujita, T.; Taki, S.; Yamada, G.; Hamuro, J.; Taniguch Nature 313, 402-404, 1985

A; Title: Unique structure of murine interleukin-2 as deduced from cloned cDNAs.

A; Reference number: 148597; MUID:85111148

A; Accession: I48597

A; Accession: I48597

A; Molecule type: mRNA

A; Residues: 1-169 < RES>
A; Cross-references: EMBL:X01772; GB:K02797; NID:g52663; PIDN:CAA25909.1; PID:g758159

C; Genetics: 63/3; 83/3; 132/3

C; Superfamily: interleukin-2

C; Keywords: cytokine; glycoprotein; growth factor; immunoregulation: lymphokine; T-cell F; 1-20/Domain: signal sequence *status predicted < SIG>
F; 21-169/Product: interleukin-2 *status predicted < SIG>
F; 21-169/Product: carbohydrate (Thr) (covalent) *status predicted < MATP>
F; 23/Binding site: carbohydrate (Thr) (covalent) *status predicted < MATP>
F; 92-140/Disulfide bonds: *status predicted < MATP>
F; 92-140/Disulfide bonds: *status predicted < MATP>
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A;Title: Organization and structure of the mouse interleukin-2 gene.
A;Reference number: A93550; MUID:85087940
A;Accession: A93550; MUID:85087940
A;Accession: A93550
A;Molecule type: DNA
A;Residues: 1-169 <FUS>
R:Deyos, R.; Plaetinck, G.; Remaut, E.; Tavern
Mol. Biol. Rep. 11, 57-61, 1986
A;Title: Cloning and structure of a mouse interleukin-2 chromosomal general procession: A54490; MUID:86118396
A;Accession: A54490
A;Molecule type: DNA
A;Residues: 1-169 <DEG>
A;Cross-references: GB:M16760
A;Cross-references: GB:M16760
A;Cross-references: GB:M16760
A;Cross-references: GB:M16760
A;Cross-references: GB:M16760
                                                                                                       A; Molecule type: DNA
A; Residues: 1-60 <RES>
A; Cross references: GB:L07575; NID:g349515; PIDN:AAA39327.1; PID:g349516
C; Genetics:
A; Gene: I1-2
C; Superfamily: interleukin-2
                                                                                                                                                                                                                                                                                                                                                                                                                             interleukin 2 - western wild mouse (fragment)
C:Species: Mus spretus (western wild mouse)
C:Date: 02-Aug-1996 #sequence_revision 02-Aug
C:Accession: I68870
                                                                                                                                                                                                                                                              R;Matesanz, F.; Alcina, A.; Pellicer, A.
Immunogenetics 38, 300-303, 1993
A;Title: Existence of at least five interleukin-2 molecules
A;Reference number: I54512; MUID:93307791
A;Accession: I68870
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Status: preliminary;
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                              39,1%;
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Pred. No. 0.05;
                           Score 59.5; DB Pred. No. 0.072;
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on 02-Aug-1996 #text_change 16-Jul-1999
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K; Matesanz, F.; Alcina, A.; Pellicer, A.
Immunogenetics 38, 300-303, 1993
A; Title: Existence of at least five interleukin-2 molecules
A; Reference number: I54512; MUID:93307791
A; Accession: I68871
A; Accession: I68871
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Immunogenetics 38, 300-303, 1993
A;Title: Existence of at least five interleukin-2 molecules
A;Reference number: I54512; MUID:93307791
A;Accession: I54512
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Matesania trans. Nav.
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I54512
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C;Superfamily:
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C;Species: Mus musculus (house mouse)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C;Accession: I68871
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A; Residues: 1-62 < RES>
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C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
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A; Residues: 1-72 < RES>
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SPTSSSTSSTAEAQQQQQQQHLEQLLMDLQELLS
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                                              SPTSSSTAEAQQQQQQQQQQQQQQQQQQQQQHLEQLLMDLQELLS 69
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Maximum DB seq length: 2000000000
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 SwissProt_40:*
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 В
ILZ_MUMAN
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ILZ_FELCA
ILZ_CANFA
ILZ_CANFA
ILZ_RABIT
ILZ_RABIT
ILZ_BOTI
ILZ_HORGN
ILZ_HORGN
ILZ_HORGN
ILZ_HORGN
ILZ_HORGN
ILZ_HORGN
ILZ_CREBI
ILZ_BOUIN
ILZ_CREBI
ILZ_GREBI
ILZ_BOUIN
ILZ_CEREL
ILZ_MUSSB
ILZ_MOUSB
AAA_EMBNI
ILZ_LACLA
POL_SIVAN
PMIS_CHLPU
YHAB YEAST
LCCL_LACLA
PRO_DROME
DNM1_FARLU
ABSC_MYCLE
ILCNC_LACLA
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kidney, Ltk-, and Chinese hamster ovary cells. carbohydrate chains and their location within t J. Biol. Chem. 264:17368-17373(1989).
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Weir M.P., Chaplin M.A., Wallace D.M., Dykes C.W., Hobden A.N.;
"Structure-activity relationships of recombinant human interleukin
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                                                        SEQUENCE FROM N.A.
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"Structure of the human interleukin 2 gene.";
Proc. Natl. Acad. Sci. U.S.A. 80:7437-7441(1983)
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64:1928-1936(1995)
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"The interleukin-2 and interleukin-4
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82:7284-7288(1985).
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Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
PROLIFERATION AND OTHER ACTIVITIES CRUCTAL TO REGULATION OF THE
IMMUDE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-
ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS (BY
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Mammalla; Eutheria; Primates; Catarrhini; Cercopithecidae;
Cercopithecinae; Macaca.
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prodom; PD003649; Interleukin-2; 1.
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          APTSSSTKKTQLQLEHLLLDLQMILNGINN 31
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P51498;
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Villinger F.J., Brar S.S., Mayne A.E., Chikkala Mayne A.E., Mayne A.E., Chikkala Mayne A.E., Chikkala Mayne A.E., Mayne A.E., Chikkala Mayne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Macaca mulatta (Rhesus macaque), and Macaca nemestrina (Pigrtailed macaque). Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth
                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -!- FUNCTIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cercopithecinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cytokine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00424; INTERLEUKIN_2; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Blood;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID-9544,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUBCELLULAR LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY)
                                                                                                                                                                                                                                                                               APTSSSTKKTQLQLEHLLLDLQMILNGINN 31
                                                                                                                                                                                                                                                         APTSSSTKKTQLQLEHLLLDLQMILNGINN
                                                                                                                                                                                                                                                                                                                                                       30;
                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                              154 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Interleukin-2;
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154
23
126
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TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Immune response; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Œ.
                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                          Score 147; DB 1;
Pred. No. 3.4e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ВΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           O-LINKED (GALNAC. .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                           6AEBA480F204BA49
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                          factor) (TCGF).
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Best Local
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IL2_MIRAN
                                                                                                    062641;
15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth
                                                                                                                                                                                                                                                                                                                                             CARBOHYD
DISULFID
VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL;
                                                          Eukaryota;
Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=96003435; PubMed=7561102;
Villinger F.J., Brar S.S., Mayne A.E., Chil
"Comparative sequence analysis of cytokine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cercocebus torquatus atys (Red-crowned mangabey) (Sooty mangabey). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae; Cercocebus.
            MEDLINE-98136706;
                        SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                      VARIANT
                                                                                                                                                                                                                                                                                                                                                                                              SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                        T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                   Cytokine;
                                                                                                                                                                                                                                                                                                                                                                                                                                         SMART; SM00189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR00265; INTERLEUKIN2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00715; IL2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     or send
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID-9531;
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FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STYMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONCCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.

SUBCELLULAR LOCATION: Secreted.

SIMILARITY: BELONGS TO THE IL-2 FAMILY.
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                                                                                                                                                                                                                                         APTSSSTKKTQLQLEHLLLDLQMILNGINN 31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   U19846; AAB60399.1;
P01585; 3INK.
                                                                                                                                                                                                                                                                          . Similarity
29; Conserv
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an email to license@isb-sib.ch).
                                                                               angustirostris (Northern elephant seal)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          non-profit institu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          primates."
                                                         Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                requires a
                                                                                                                                                                                                                                                                                                                                                                                                                  Glycoprotein;
                                                                                                                                                                                                                                                                                                                         154 AA;
                                                                                                                                                                                                                                                                         93.4%;
ilarity 96.7%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bioinformatics Institute. The profit institutions as long this statement is not removed.
 Brown
                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                         IL2;
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154
23
126
25
74
17754
            PubMed=9476229;
                                                                                                                                                                                                                                                                                                                                                                                                                               INTERLEUKIN_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Interleukin-2;
₩.C.,
                                                         Chordata;
Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Interleukin-2
                                                                                                                                                                                                                                                                                                                                                                                                                   Immune
                                                                                                                                                                                                                                                                                                                         WW.
 Rice-Ficht A.C.;
                                                                                                                                                                                                                                                                                                                                 BY SIMILARITY.
INTERLEUKIN-2.
O-LINKED (GALNAC.
BY SIMILARITY.
R -> S.
K -> E.
                                                                                                                                                                                                                                                                              Score 142; Db 1,
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); Mismatches
                                                        Craniata; Ve; Pinnipedia;
                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                   response;
                                                                                                                                                                                                                                                                                                                       9FEB51814204BA48 CRC64;
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                                                                   Vertebrata;
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                                                                                                                                                                                                                                                                                                                                                                                                                  Signal;
                                                          Phocidae;
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                                                                                                      factor)
                                                                                                                                                                                                                                                                                              Length 154;
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s from human and
                                                                                                                                                                                                                                                                                                                                                                                                                   Growth
                                                        Euteleostomi; Mirounga.
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                                                                                                                                                                                                                                                                                                                                                                     (BY
                                                                                                       (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             restrictions
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Best Local S
Matches 22
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                      CARBOHYD
DISULFID
                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. MEDLINE-93356765;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Felis silvestris catus (Cat).
Eukaryota; Metazoa; Chordata; Craniata; Ve
Mammalia; Eutheria; Carnivora; Fissipedia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q07885;
01-OCT-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIGNAL
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See lor send an email to license@isb-sib.ch).
                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                            Cozzi P.J.,
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15-DEC-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9685
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                                                                                                                                                                                                                                                                                                 Leff A.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Interleukin-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; U79187;
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SIMILARITY: BELONGS TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WILDI. Dis. 34:81-90(1998)
FUNCTION: PRODUCED BY T-CELLS IN RESPONSE 7
MITOGERIC STIMULATION, THIS PROTEIN IS REQU
PROLIFERATION AND OTHER ACTIVITIES CRUCIAL
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MOY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SWISS-PROT entry is copyright. It is produced through a ceen the Swiss Institute of Bioinformatics and the EMBL
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22; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  585; 3INK.
IPR000779;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and characterization of phocine Dis. 34:81-90(1998).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (Rel. 30, Created)
(Rel. 30, Last sequence update)
(Rel. 37, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  154 AA;
                                                                                                                                                                                                                                                                                                                            Padrid
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                                                                                                                                                                  N.A.
                                                                                                                                                                                                                                          functional charachys. Res. Commun.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAC12258.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
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154
23
126
17661
                                                                                                                                                                                                                                                                                                                    PubMed=8352761;
Takeda J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Interleukin-2;
CELLS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     76.3%;
73.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Interleukin-2.
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                                                                                                                                                                                                                                            characterization of feline ommun. 194:1038-1043(1993).
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O THE IL-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 116; /
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INTERLEUKIN-2.
O-LINKED (GALNAC.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (T-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                response;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     No.
                                                                                                                                                                                                                                                                                                                          Alegre M.-A.,
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1.7e-10;
2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vertebrata;
ia; Felidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Å
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                interleukin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Usage
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Euteleostomi;
Felis.
                                                                                                                                                                                                                                                                     interleukin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (BY
                           LYMPHOKINE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LYMPHOKINE -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and
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                                                                                                                                                      SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN=XBRED21/12/93; TISSUE=Lymph node;
STRAIN=S95337423; PubMed=7612930;
MEDLINE=95337423; PubMed=7612930;
Dunham S.P., Argyle D.J., Onions D.E.;
The isolation and sequence of canine in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
CONFLICT
                                                                                                                                                                                                                                                                                                 Q29416; Q28249;
15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation updat
Interleukin-2 precursor (IL-2) (T-cell grow
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the European Bioinformatics Institute. The use by non-profit institutions as long a modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2
ProDom; PD003649; Interleukin:
SMART; SM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                    "A single nucleotide insertion in the canine interleukin-2 receptor gamma chain results in X-linked severe combined immunodeficiency
                                                                                                                 SEQUENCE FROM N.A. MEDLINE-96016696; Pubmed-8571541;
                                                                                                                                                     The isolation and sequer DNA Seq. 5:177-180(1995).
                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cytokine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00424;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PIR; JN0698; JN0698.
HSSP; P01585; 3INK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; L19402; AAA02865.1; -. EMBL; L25408; AAA51431.1: -
          SEQUENCE FROM N.A. STRAIN-BEAGLE; TIS
                                                                                                       Somberg R.L., Pullen
                                                                                                                                                                                                                                                                             Canis familiaris (Dog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR000779; Interleukin-2
                                                                                             Henthorn P.S.,
                                                                                                                                                                                                                                        NCBI_TaxID=9615;
 MEDLINE-95347614;
                                                                                                                                                                                                                                                                                                                                                                                                                         21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
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SIMILARITY: BELONGS TO
                                                                                                                                                                                                                                                                                                                                                              CANFA
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                                              Immunol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      l Similarity
22; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Glycoprotein;
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21
78
111
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                  precursor (IL-2) (T-cell growth
                                              Immunopathol. 47:203-213(1995)
           TISSUE-Spleen;
                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IL2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERLEUKIN_2; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Interleukin-2;
 PubMed=7622066;
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154
126
111
111
                                                                                                                                                                                                                                                     Chordata; Craniata; Vertebrata; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 75.0%;
73.3%;
                                                                                                        R.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MV.
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                                                                                                        Casal M.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BY SIMILARITY.
INTERLEUKIN-2.
BY SIMILARITY.
N-LINKED (GLCNAC...
KI -> RM (IN REF. 2).
F -> I (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5,
                                                                                                                                                                   of canine interleukin-2.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 114; Db 1,
No. 3.4e-10;
                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2E71E3BD8B9665EF CRC64;
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                                                                                                                                                                                                                                                                                                                                                               155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                               update)
                                                                                                        Patterson
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                               ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Usage
                                                                                                                                                                                                                                                                                                 factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 154;
                                                                                                        D.F.,
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                                                                                                                                                                                                                                                                Euteleostomi;
                                                                                                        Felsburg P.J.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
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RESULT 8
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Best Local S
Matches 22
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EMBL; U28141;
EMBL; U11689;
HSSP; P01585;
                                                                                                                                                                                                                                                                                                                                                                                                                       CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Knapp D.W., Williams J.S., Andrisani O.M.;
"Cloning of the canine interleukin-2-encoding cDNA.";
Gene 159:281-282(1995).
                                                                                                                                                                          077620;
15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the
          TISSUE=Lymph node;

Rearr P.J., Lei S., Hardy C., Perkins H.D.;

"Complete cDNA sequence of rabbit interleukin-2.";

Submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases.

-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR

MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SMART; SM00189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cytokine; Glycoprotein;
                                                                                                                           Mammalia;
                                                                                                                                     Eukaryota; Metazoa;
                                                                                                                                                   Oryctolagus cuniculus (Rabbit)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00424;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PR00265; INTERLEUKIN2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00715; IL2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro: IPR000779; Interleukin-2
                                                                                       SEQUENCE FROM N.A.
                                                                                                             NCBI_TaxID-9986
                                                                                                                                                                                                                                           [L2_RABIT
                                                                                                                                                                                                                                                                                                         21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS. SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            European Bioinformatics Institute.
PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SWISS-PROT entry is copyright. It is produced through a collaboration entry is copyright. It is produced through a collaboration the Swiss Institute of Bioinformatics and the EMBL outstation.
                                                                                                                                                                                                                                                                                                                  AP-TSSSTKKTQLQLEHLLLDLQMILNGINN 31
                                                                                                                                                                                                                                                                                                         APITSSSTKETEQQMEQLLLDLQLLLNGVNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PD003649;
                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                            Eutheria;
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                                                                                                                                                                                                                                                                                                                                                          Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BAA06378.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAA68969.1;
                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                     20
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AND OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERLEUKIN_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Interleukin-2;
                                                                                                                            Lagomorpha;
                                                                                                                                       Chordata;
                                                                                                                                                                                                                                                                                                                                                                     70.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Immune
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                                                                                                                                                                                                                                                                                                                                                                                                         INTERLEUKIN-2.
O-LINKED (GLCNAC...
N-LINKED (GLCNAC...
BY SIMILARITY.
M -> I (IN REF. 3).
Q -> R (IN REF. 3).
F -> Y (IN REF. 3).
L -> M (IN REF. 3).
L -> M (IN REF. 3).
ACTIVITIES
                                                                                                                                                                                                                                                                                                                                                          6,
                                                                                                                                                                                                                                                                                                                                                                       Score 107.5; DB 1
Pred. No. 3.3e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BY SIMILARITY.
                                                                                                                                         Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      response; Signal;
                                                                                                                            Leporidae; Oryctolagus
                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                          51
                                                                                                                                                                                                                                             153
 CRUCIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              There are no
                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                    DB 1;
                                                                                                                                                                              factor) (TCGF).
 TO REGULATION OF
                                                                                                                                                                                                                                                                                                                                                                                                             CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (POTENTIAL).
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RESULT 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IL2_RAT
P17108;
01-AUG-1990
                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CARBOHYD
DISULFID
SEQUENCE
                                                                                                                                      Immunogenetics 30:145-147(1989).

-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKIN ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CEL-!- SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth
                                                                                                                                                                                                                                                                                                                              McKnight A.J., Mason D.W., Ba
"Sequence of rat interleukin
                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. MEDLINE-89339608; PubMed-2788130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IL2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entities
or send a
                                                                                                                                                                                                                                                                                          chain mRNA.";
                                                                                                                                                                                                                                                                                                               interleukin 2 cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cytokine;
T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00715; IL2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AF068057; AAC23838.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  use by non-profit institutions as long as modified and this statement is not removed. (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBCELLULAR SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OR IL-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS. SUBCELLULAR LOCATION: Secreted.
SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            European
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P01585;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    norvegicus (Rat).
ota: Metazoa; Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; PD003649; Interleukin-2; sM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ān
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PR00265; INTERLEUKIN2
      non-profit
and this st
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PS00424; INTERLEUKIN_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   requires
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                585; 31NK.
IPR000779; Interleukin-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            equires a license agreement (See http://www.isb-sib.ch/announce/email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      153
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                          BELONGS TO THE IL-2 FAMILY.
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153
23
111
125
17256 .
                                                                                                                                                                                                                                                                                                             probe
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                                                                                                                                                                                                                                                                                                             to rat
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                                                                                                                                                                                                                                                                                                         Barclay A.N.; in 2 and anomalous binding of rat MHC class II-associated
      s
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  O-LINKED (GALNAC.
N-LINKED (GLCNAC.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 107;
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INTERLEUKIN-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BY SIMILARITY.
      not
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
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      removed
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              There are no restrictions ng as its content is in
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3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Signal;
                                                                                                                                                           MONOCYTES, LYMPHOKINE-CELLS, AND GLIOMA CELLS
  Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               factor) (TCGF)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 153;
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  and
                                                                                                                                                                                                                                                                                                         a mouse
invariant
                                   EMBL outstation -
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in no way
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          _PIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PIR; A45882; A45882.
HSSP; PO1885; 3INK.
InterPro; IPRO00779; Interleuk!
Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2
                                                                Iwata H., Hasegawa A., Yamamoto M., Oida T., Endo Y., Inoue T.;

"Structure of the porcine chromosomal interleukin-2 gene.";

Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.

-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR

MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL

PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF

IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKIN

ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CEL

-!- SUBCELLULAR LOCATION: Secreted.

-!- SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                                                              01-AUG-1992
01-AUG-1992
01-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHAIN
CARBOHYD
DISULFID
SEQUENCE
                                                                                                                                                                                                                                                                                MEDLINE-91274360; PubMed-2054386;
Goodall J.C., Emery D.C., Bailey M., English L.S., Ha "cDNA cloning of porcine interleukin 2 by polymerase Biochim. Biophys. Acta 1089:257-258(1991).
                                                This
                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                        Submitted
                                                                                                                                                                                                                                                            SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                          Sus scrofa
                                                                                                                                                                                                                                                                                                                                                                                                                            01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P26891;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                  efevre F.;
                                                                                                                                                                                                                                                                                                                                     TISSUE=T
                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IL2_PIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cytokine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SMART; SM00189; IL2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; M22899; AAA41427.1;
                                                                                                                                                                                                                                                                                                                                                                                 Mamumalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 APTSSSTKKTQLQLEHLLLDLQMILNGINN
                            SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL cutstation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APTSSPAKETQQHLEQLLLDLQVLLRGIDN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                     cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Glycoprotein;
                                                                                                                                                                                                                       (MAY-1991) to
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78
155
                                                                                                                                                                                                                                                                                                                                                                                                Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                          (Pig)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                            N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
155
23
126
17632 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Interleukin-2;
                                                                                                                                                                                                                                                                                                                                                                                Chordata; Craniata; Ver
Cetartiodactyla; Suina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63.8%;
66.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Interleukin-2
                                                                                                                                                                                                                    the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Immune response;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 97;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    O-LINKED (GALNAC. .
BY SIMILARITY.
67A8554A73BF30A0 C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. 1.30
1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               31
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                                                                                                                                                                                                                                                                                                                                                                                Vertebrata;
ina; Suidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Signal; Growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3e-07
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                                                                                                                                                                                                                                                                                                                                                                                                                                factor) (TCGF)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRC64;
                                                                                              AND GLIOMA CELLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .) (BY
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Sus.
                                                                                                                                                                                                                                                                                                chain
                                                                                                        LYMPHOKINE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY).
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                                                                                                                                                                                                                                                                                              reaction.";
                                  collaboration
5 outstation -
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Best Local :
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O1-OCT-1994 (Rel. 30, Created)

O1-OCT-1994 (Rel. 30, Last sequence update)

16-OCT-2001 (Rel. 40, Last annotation update)

The correction of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CARBOHYD
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2;
SMART; SM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AB041935; BAB16110.1; -.
PIR; S15473; S15473.
PIR; S16241; S16241.
HSSP; P01585; 3INK
                                                                                                                                                                                                                                              Meriones unguiculatus (Mongolian jird).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Gerbillinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-94174702; PubMed-8128610;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE-Spleen;
                                          EMBL; X68779; CAA48679.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10047;
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                      S33509;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         X56750; CAA40071.1; -.
X58428; CAA41330.1; -.
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                      S33509
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66.78;
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Pred. No. 1.8e
4; Mismatches
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BY SIMILARITY.
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INTERLEUKIN-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F3B95E43D4A3D3E1 CRC64;
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L outstation -
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                                                                                                                                                                                             outstation
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RESULT 12
IL2_HORSE
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Best Local Similarity
                   PIR; S31391; S31391.

HSSP; P01585; 31NK.
InterPro; IPR000779; Interleukin-2
Pfam; PF00715; IL2; 1.

PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1
SMART; SN00189; IL2; 1.
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DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHAIN
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SMART: SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2;
                                                                                                                                                                                                                                   IL2_HORSE STANDARD; PRT; 149 AA. p37997; 01-OCT-1994 (Rel. 30, Created) 01-NOV-1995 (Rel. 32, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) 1nterleukin-2 precursor (IL-2) (T-cell growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cytokine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR00265; INTERLEUKIN2
                                                                                                                                                    use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-94160538; PubMed-8116217;
Vandergrifft E.V., Horohov D.W.;
Vandergrifft E.V., Horohov D.W.;
Molecular cloning and expression of equine interleukin
Vet. Immunol. Immunopathol. 39:395-406(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR000779; Interleukin-2.
                                                                                                     EMBL; L06009; AAA20134.1; EMBL; X69393; CAA49190.1;
                                                                                                                                         or send
                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Equus caballus (Horse).
Eukaryota; Metazoa; Cho
           PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia; Eutheria;
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                                                                                                                                         an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62.5%;
                                                                    Interleukin-2
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Pred. No.
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O-LINKED (GALNAC. .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOF74AA1A381CDDA CRC64;
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2.5e-07;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 155;
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Best Local S
Matches 17
                                    SMART; SM00189; ILZ; 1.
PROSITE; PS00424; INTERLEUKTN 7.
Cytokine: C1....
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30-MAY-2000
16-OCT-2001
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097513;
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DISULFID
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CARBOHYD
CONFLICT
                                                                                          PRINTS; PR00265; INTERLEUKIN2 ProDom; PD003649; Interleukin
                                                                                                                                                                       EMBL; AF009570; AAD01426.1; HSSP; P01585; 1IRL.
                                                                                                                                                                                                                              entities requires a license agreement (some send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Orcinus orca (Killer whale).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Cetacea; Odontoceti; Delphin
                                                                                                                               InterPro; IPR000779; Pfam; PF00715; IL2; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     whale,
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16-OCT-2001 (Rel.
Interleukin-2 prec
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SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ness T.L., Bradley W.G., I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9733;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (Fragment).
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                                                                                                                                                                                                                                                                                    s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the Ew European Bioinformatics Institute. There are no restriby non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                   SUBCELLULAR LOCATION: Secreted.
SIMILARITY: BELONGS TO THE IL-2 FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                           le, Orcinus orca.";

Mamm. Sci. 14:531-543(1998).

PUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APTSSSKRETQQQLKQLQMDLKLLLEGVNN
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17; Conserv
                                  Glycoprotein;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             39, Last sequence update)
40, Last annotation update)
cursor (IL-2) (T-cell growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           39,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
149
121
23
106
3
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125
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20
                                                                                                                                                     Interleukin-2
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56.7%;
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                                  Immune
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on of the i
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BY SIMILARITY.

O-LINKED (GALNAC.

N-LINKED (GLCNAC.

R -> K (IN REF 2).

S -> A (IN REF 2).

I -> M (IN REF 2).

I -> G (IN REF 2).

L -> M (IN REF 2).
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                                  response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -> F (IN REF. 2)
-> M (IN REF. 2)
051BB8C47A0114FC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           92;
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                                                                                                                                                                                                                                                (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 1,
6.9e-07;
5;
                                                                                                                                                                                                                                                                                  There are no restrictions ng as its content is in
                                  Signal;
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                                                                                                                                                                                                                                                                      Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               factor) (TCGF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CRC64;
                                  Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 from
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                                                                                                                                                                                                                                                                      and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the
                                                                                                                                                                                                                                                                                                                        EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Delphinidae;
                                                                                                                                                                                                                                                                                                                                               a collaboration
                                                                                                                                                                                                                                                                      for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 killer
                                                                                                                                                                                                                                                                    n no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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RESULT 14
IL2_BOVIN
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; (
Mammalia; Eutheria; (
Bovidae; Bovinae; Bos
NCBI_TaxID=9913;
                                                                                                                                                                                                EMBL; M12791; AAA30586.1; --
EMBL; M13204; AAA21143.1; ALT_INIT
EMBL; X17201; CAA3612.1; --
EMBL; X52667; CAA36912.1; --
HSSP; P01585; 31NK.
                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Eventhe European Bioinformatics Institute. There are no restructed the European Bioinformatics Institute.
                                                                                                            entities requires a license agreement (s or send an email to license@isb-sib.ch).
                                                                                                                                   use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM 1.... SEQUENCE FROM 1... BUCK C.D., Weinber MEDLINE-86205870; PubMed=3486415; Buck C.D., Weinber Reeves R., Spies A.G., Nissen M.S., Buck C.D., Weinber Barr P.J., Magnuson N.S., Magnuson J.A.; "Molecular cloning of a functional bovine interleukin "Molecular cloning of a functional bovine interleukin Natl. Acad. Sci. U.S.A. 83:3228-3232(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULFID NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHAIN CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                      Cerretti D.P., wcKereghan K., Larsen A., Cantrel Gillis S., Cosman D., Baker P.E.; "Cloning, sequence, and expression of bovine int Proc. Natl. Acad. Sci. U.S.A. 83:3223-3227(1986)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13-AUG-1987 (Rel. 05, Created)
13-AUG-1987 (Rel. 05, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth
IL2 OR IL-2.
                                                                                                                                                                                                                                                                                                          rissue=Thymus;
                                                                                                                                                                                                                                                                                                                        SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=86205869;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IL2_BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     l Similarity
18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21
23
78
152
152
                                                                                                                                                                                                                                                                                                                     1-22 FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      >152
23
126
152
17424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PubMed=3517854;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cetartiodactyla;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              57.9%;
60.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 88;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     O-LINKED (GALNAC.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INTERLEUKIN-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              308F91821ECCB764 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u>3</u>1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ruminantia; Pecora; Bovoidea;
                                                                                                                       (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                155
                                                                                                                                                                                                                                                                                                                                                                                                                                    bovine interleukin
                                                                                                                                              There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 1;
2.9e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cantrell M.A., Anderson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                     Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6.
                                                                                                                                                                                                                                                                                                                                                                            Weinberg A.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                            AND GLIOMA CELLS
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                                                                                                                                                        restrictions
                                                                                                                                                                                                                                                                                                                                                      2 cDNA.";
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                                                                                                                                     and
                                                                                                                                                                      EMBL
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                                                                                                                                                                               collaboration
                                                                                                                                                                      outstation
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InterPro; IPR000779; Pfam; PF00715; IL2; 1

Interleukin-2

PD003649;

INTERLEUKIN2 Interleukin-2;

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RESULT 15
     TTTERREADER REPRESENTATION OF THE TERRESECTION OF THE TERRESECTION
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Best Local S
Matches 16
                                                                                                                                                                                              EMBL; X76063; CAA53664.1; -.
EMBL; U34274; AAB38527.1; -.
PIR; S38662; S38662.
HSSP; P01585; 3INK.
InterPro; IPR000779; Interleu)
Pfam; PP00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DISULFID CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        p36835; p79156;
01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cytokine; Glycoprotein; T-cell. 20
                                                                                                                         PRINTS; PR00265; INTERLEUKIN2 ProDom; PD003649; Interleukin SMART; SM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
Beyer J.C., Cheevers
Submitted (DEC-1996)
-!- FUNCTION: PRODUCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SMART; SM00189; IL2; 1. PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                       T-cell.
                                                                                            SMART; SM00189; IL2;
PROSITE; PS00424; IN
                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-slb.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (NOV-1993) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rimstad
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=Blood;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bovidae; Caprinae; Capra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Capra hircus (Goat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CHAIN
                                                                          Cytokine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mitted (DEC-1996) to the EMBL/GenBank/DDBJ databases. FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTICENIC OR MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE LAMBURE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS. SUBCELLULAR LOCATION: Secreted.
SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  _CAPHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APTSSSTKKTQLQLEHLLLDLQMILNGINN 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APTSSSTGNTMKEVKSLLLDLQLLLEKVKN 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
16; Conser
                                                                       Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1
21
79
23
66
155 AA;
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     21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                    INTERLEUKIN_2; 1.
                                                                                                                                                 Interleukin-2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20
155
127
23
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66
V
17627 MW;
20
155
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                                                                                                                                                                                                                         Interleukin-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               W.P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Immune response; Signal; Growth factor;
                                                                       Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INTERLEUKIN-2.
BY SIMILARITY.
O-LINKED (GALNAC.
V -> A (IN REF. 2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 79; DB
Pred. No. 6.7e
6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6,
  BY SIMILARITY.
INTERLEUKIN-2.
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O9ucf5 homo sapien
O9xt84 delphinapte
O88210 cavia porce
O9gjr4 ovis aries
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O95mp4 ovis aries
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EMBL; AF228636; AAG53575.1; -.
HSSP; P01585; 3INK.
InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
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Q9C001;
O1-JUN-2001 (TrEMBLrel. 17, C
01-JUN-2001 (TrEMBLrel. 17, L
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INTERLEUKIN-2 (FRAGMENT).
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NON_TER 150 150
SEQUENCE 150 AA; 17312 MW; BF25
                                                                                                                                                                                                                                          SEQUENCE FROM N.A.

MEDLINE-20545237; PubMed-11093171;

Matesanz F., Delgado C., Fresno M., Alcina A.;

"Allelic selection of human IL-2 gene.";

Eur. J. Immunol. 30:3516-3521(2000).
                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
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RESULT

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EMBL; U88364; AAD41534.1; ...
EMBL; U88361; AAD41535.1; ...
EMBL; U88363; AAD41536.1; ...
EMBL; U88363; AAD41537.1; ...
EMBL; U88363; AAD41537.1; ...
HSSP; P01585; 31NK.
InterPro; IPR00779; Interleukin-2.
Pfam; PF00715; IL2; 1.
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01-NOV-1999
01-NOV-1999
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Xu D., Wu Y., Chen J., Yu L., Zhong M., Hui Y., Q

Xu D., Wu Y., Chen J., Yu L., Zhong M., Hui Y., Q

"Expression of human IL-2 from gene transferred m

expression of human IL-2 from gene transferred

and its effect on the growth of mouse melanoma.";

Chung-Hua Min Kuo Wei Sheng Wu Chi Mien I Hsueh T

13:78-82(1993).
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Eukaryota; Metazoa; C
Mammalia; Eutheria; F
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PRODOM; PD003649; Interleukin-2;
SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2;
SEQUENCE 154 AA; 17675 MW; AI
                                      EMBL; U25676; AAA70092.1;
HSSP; P01585; 3INK.
InterPro; IPR000779; Inte
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NCBI_TaxID=9557, 43147, 37293,
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Cercopith
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Aotus nancymaae (Owl monkey),
Aotus nigriceps (black-headed night monkey), and
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Aotus lemurinus
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Pfam; PF00715;
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Primates;
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Pred. No. 3.3e-14;
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Q9XT83;
01-NOV-1999
01-NOV-1999
01-DEC-2001
MEDLINE=99221046; PubMed=10206205; St-Laurent G., Beliveau C., Archambault D.; "Molecular cloning and phylogenetic analysi (Delphinapterus leucas) and grey seal (Hali 2.";
                                                                                                                                                                                                                                                                                                                                                                                                           Eizenberg O., Faber-Elman A., Lotan "Interleukin-2 transcripts in human expression by astrocytes.";
J. Neurochem. 64:1928-1936(1995).
EMBL; $77835; AAD14264.1; -..
HSSP; P01585; 3INK.
                                                                        Halichoerus grypus (Gray seal).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Pinnipedia; Phocidae; Halichoerus.
NCBI_TaxID=9711;
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01-NOV-1996 (TrEMBLrel. 01,
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01-OCT-2001 (TrEMBLrel. 18,
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ProDom; PD003649; Interleukin-2;
SMART; SM00189; IL2; 1.
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Pfam; PF00715; IL2; 1.
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Mammalia; Eutheria;
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SEQUENCE 156 AA; 18002 MW; 8E0452D43B336389 CRC64;
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                                                     SEQUENCE FROM N.A.
                                                                                                                      INTERLEUKIN
                                                                                                                                                                                                                                                                                                                        SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9606;
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28; Conserv
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etazoa; Chordata;
theria; Primates;
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93.3%;
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Pred. No. 1.4e-12;
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); Mismatches
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Pred. No. 9.3e-13;
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Catarrhini;
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          tic analysis of beluga whale
seal (Halichoerus grypus) i
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rodent brains: possible
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Best Local Similarity
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O9TV12;

O1-MAY-2000 (TrEMBLrel. 13, Created)

O1-MAY-2000 (TrEMBLrel. 13, Last seque)

O1-OCT-2001 (TrEMBLrel. 18, Last annot INTERLEUKIN-2 (FRAGMENT).

Canis familiaris (Dog).
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O1-JUN-2001 (TremBLrel. 17,
O1-JUN-2001 (TremBLrel. 17,
O1-DEC-2001 (TremBLrel. 19,
INTERLEUKIN 2 (FRACMENT).
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HSSP; P01585; 31NK.
InterPro; IPR000779; Interleukin-2.
Pfam; pr00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
PRODOM; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                  NON_TER
                                                                                                                                                                                                                                                                                                                                                                 "Expression of canine interleukin-2 mRNA in concanavalicanine lymphocytes.";
Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases EMBL; AF333117; AAK01437.1;
HSSP; P01585; LILL.
                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; NCBI_TaxID=9615;
                                                                                                                                                                                                                                                                                                                      InterPro; IPR000779; Interleukin-2.
PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
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Mammalia; Eutheria;
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TISSUE~BLOOD;
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 SEQUENCE FROM German A.J., F
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22; Conserv
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nilarity 71.0%;
Conservative
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M N.A.
Helps
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1; AAD40848.1; -.
  C.R.,
                                                                                                                                                                                                                                                                                       7389 MW;
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Carnivora; Fissipedia;
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74.2%;
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  Harley
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Pred. No. 1.2e-08
5; Mismatches
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6; Mismatches
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ia; Canidae;
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                                               Euteleostomi;
Canis.
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Matches 20
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Matches 21; Conser
                                    0923T2;
01-DEC-2001 (TrEMBLrel.:
01-DEC-2001 (TrEMBLrel.:
01-DEC-2001 (TrEMBLrel.:
INTERLEUKIN 2.
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01-OCT-2000
01-DEC-2001
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Pfam; PF00715; IL2; 1.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
SMO217E; PS00424; INTERLEUKIN_2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
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SEQUENCE
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Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF091131; AAD46989.1; -.
HSSP; P01585; IIRL:
InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
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Sigmodon hispidus (hispid cotton rat).
Eukaryota; Metazoa; Chordata; Craniata
Mammalia; Eutheria; Rodentia; Sciurogn
                                                                                                                                                                                                                                                                                                                                                                              TISSUE-SPLEEN, LYMPH NODE;
MEDLINE=20304414; PubMed=10843729;
MeDLINE=20304414; PubMed=10843729;
Medline=20304414; PubMed=18.H., Hardy C.M.,
Perkins H.D., van Leeuwen B.H., Hardy C.M.,
"The complete cDNA sequences of IL-2, IL-4,
European rabbit (Oryctolagus cuniculus).";
Cytokine 12:555-565(2000).
                                                                                                      Q923T2
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01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
INTERLEUKIN 2 VARIANT ILZDELTA2.
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HSSP: P01585; 31NK.
InterPro; IPR000779; Interleukin-2.
Pfam: PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
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Pred. No. 2.4e-08
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 Craniata; Ver
Sciurognathi;
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  Vertebrata; Euteleostomi;
thi; Muridae; Sigmodontina
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  Sigmodontinae;
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                             Q9UCF5 PRELIMINARY;
Q9UCF5;
01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-JUN-2000 (TrEMBLrel. 14,
INTERLEUKIN 2 (FRACKENT).
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01-AUG-1998
01-OCT-2001
  Homo sapiens (Human).
Eukaryota; Metazoa; (
Mammalia; Eutheria; F
                                                                                                                                                                                                                                                   SMART; SM00189; ILZ; 1.
PROSITE; PS00424; INTERLEUKIN_2;
NON_TER 1 1
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Melby P.C., Tryon V.V., Chandrasekar B., Freeman G
"Cloning of Syrian hamster (Mesocricetus auratus)
analysis of cytokine mRNA expression in experiment
leishmaniasis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mesocricetus auratus (Golden hamster)
Eukaryota; Metazoa; Chordata; Craniat
Mammalia; Eutheria; Rodentia; Sciurog
                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                              EMBL; AF046212; AAC40097.1; HSSP; P01585; 3INK.
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Darnell M.R., Pletheva L.M., Langley R.J., Blanco J.C., P
"Cloning, expression and purification of cotton rat IL-2.
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AF39859; AAK94012.1; -
                                                                                                                                                                                                                                                                                  PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2;
                                                                                                                                                                                                                                                                                                        InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                               Infect. Immun. 66:2135-2142(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-SPLEEN;
                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID-10036;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mesocricetus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               070329;
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NCBI_TaxID=42415;
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                                                                                                                                          APTSSSKKETQQHLEQLLLDLQELLKGINN
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                                                                                                                                                                                                Similarity
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                                                                                                                                                                                                                                138
138 AA;
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                                                                                                                                                                                                                  138
15739 MW; 351032995B670779 CRC64;
  Primates;
           Chordata;
                                                                                                                                                                                              67.8%;
73.3%;
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73.3%;
                                          Created)
Last sequence
Last anno
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                                                                                                                                                                                              Score 103; DB 11;
Pred. No. 7.1e-08;
Craniata; Vertebrata; Catarrhini; Hominidae
                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi;
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annotation
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annotation update)
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2.8e-08;
5;
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                                                    update)
  Hominidae;
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                                                                                                                                                                                                                                                                                                                                                                                           G.L.
                                                                                                                                                                                                        Length 138;
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           Euteleostomi;
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RP OCC OCC
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Best Loc
Matches
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Best Local :
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                 01-NOV-1998 (TrEMBLrel. 08, Cre
01-NOV-1998 (TrEMBLrel. 08, Las
01-OCT-2001 (TrEMBLrel. 18, Las
INTERLEUKIN 2 PRECURSOR.
Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata; C
Mammalia; Eutheria; Rodentia; H
NCBL_TaxID-10141;
                                                                                                         088210
088210;
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01-NOV-1999
01-NOV-1999
01-DEC-2001
                                                                                                                                                                                                                                                     PRINTS; PRO0265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; II2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
SEQUENCE 154 AA; 17652 MW; 4288D3D41D04F172
SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                vet. immunol. Immunopathol.
EMBL; AF072870; AAD40847.1;
HSSP; P01585; 3INK.
                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

MEDLINE-99221046; PubMed-10206205;

St-Laurent G., Beliveau C., Archambault

"Molecular cloning and phylogenetic anal
(Delphinapterus leucas) and grey seal (H
                                                                                                                                                                                                                                                                                                             InterPro; IPR000779; Pfam; PF00715; IL2; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9XT84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-93289963; PubMed-8512072;
Mullner S., Karbe-Thonges B., Tripier D.;
"Charge heterogeneity of insulin fusion pro
Escherichia coli is not due to proteolytic
Anal. Biochem. 210:366-373(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniau Mammalia; Eutheria; Cetartiodactyla;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Delphinapterus leucas (Beluga whale).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
                                                                                                                                                                                                                                                                                                                                                                                                                                         Monodontidae; Delphinapterus.
NCBI_TaxID=9749;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INTERLEUKIN 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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                                                                                                                                                                       21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Match
                                                                                                                                                                     APTSSSTKKTQLQLEHLLLDLQMILNGINN 31
||||||| |: |: || || ::| || || 5
APTSSSTENTKKQVQSLLQDLHLLLKEINN 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TSXSTKKTQLQLEHLXLDLQM
                                                                                                                                                                                                               17; Conservative
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19; Conser
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                                                                                                                   PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
 N.A
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                                                                                                                                                                                                                         54.6%;
56.7%;
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12,
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Last sequences
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                                                                                                                                                                                                                6;
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                                                                                                                                                                                                                                                                                                                                                                           grey seal (Halichoerus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last
Last
                                                                                                                                                                                                              Score 83; DB Pred. No. 8.7e 6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 91; DB Pred. No. 7.7e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                              Craniata; Vertebrata;
Hystricognathi; Cavii
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                                                                                                                   PRT;
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No.
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                                                                                                                   152
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7.7e-07;
2;
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                                                                                                                                                                                                                                                                                                                                                                                      of beluga whale
                               Caviidae;
                                                                                                                                                                                                                                   Length 154;
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                                                                                                                                                                                                                                                          CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                           grypus)
                                         Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                           interleukin
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RESULT 15
Q9GL83
ID Q9GL8
AC Q9GL8
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Best Local S
Matches 16
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Best Local S
Matches 18
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STRAIN-SHEEP 2, AND SHEEP 1;
Luehken G., Prinzenberg E.-M., Hiendle
"A single strand conformation polymory
(IL-2) gene.";
J. Anim. Sci. 0:0-0(2000).

EMBL; AF213683; AAG35709.1; -.
EMBL; AF213683; AAG35709.1; -.
HSSP; P01585; IRL.
Interpro; IPR000779.
PRINTS; PR00265; INTERLEUKIN-2.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Signal.
Q9GL83 PRELIMINARY;
Q9GL83;
01-MAR-2001 (TrEMBLrel, 16,
                                                                                                                                                                                 CHAIN
NON_TER
                                                                                                                                                                                                                                                                                                                                                                           Ovis aries (Sheep).

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoldea;

Bovidae; Caprinae; Ovis.

MCBI_TaxID-9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                             O9GJR4;
01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sec
01-DEC-2001 (TrEMBLrel. 19, Last and
INTERLEUKIN 2 PRECURSOR (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE-SPLEEN;
Takeyoshi M., Iwata H., Inoue T.;
Tukeyoshi M., Iwata H., Inoue T.;
Tukeyoshi M., Iwata H., Inoue T.;
Guinea pig Interleukin 2(II-2) precursor.";
submitted (JAN-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AB010093; BAA31346.1;
HSSP; P01585; IIRL,
InterPro; IPR000779; Interleukin-2.
Pfam; PP00715; IIZ; 1.
PRINTS; PR00265; INTERLEUKIN2.
PRODOM; PD003649; Interleukin-2; 1.
                                                                                                                                                                                                     Signal.
                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9GJR4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
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                                                                              21 APTSSSTGNTMKEVKSLLLDLQLLLEKVKN 50
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                                                                                                   2 APTSSSTKKTQLQLEHLLLDLQMILNGINN 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 APTSSSTKKTQLQLEHLLLDLQMILNGINN 31
                                                                                                                          l Similarity
16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18; Conservative
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152 AA;
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22
69
69 AA;
                                                                                                                           Conservative
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>69
69
7711 MW;
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152 I
; 17271 MW;
                                                                                                                                   52.0%;
53.3%;
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    Created)
                                                                                                                          6; Mismatches
                                                                                                                                    Score 79;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
INTERLEUKIN 2.
; CA7ACO8C1B8DD1FA CRC64;
                                                                                                                                                                   B8768C23BB34D1AE CRC64;
                                                                                                                                                                                         POTENTIAL.
INTERLEUKIN 2.
                                                                                                                                                                                                                                                                                                                           polymorphism in the ovine interleukin
                          PRT;
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                          155
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                                                                                                                                               DB 6;
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                                                                                                                                              Length 69;
                                                                                                                          Indels
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                                                                                                       A Ying Q.H., Li X.R., Pan J.Y.;

TCloning of the goat II-2 gene and its expression in E.col Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases.

R EMBL; AF307018; AAG328783.1; -.

R HSSP; P01585; 3INK.

InterPro; IPR000779; Interleukin-2.

R Pfan; PF00715; IL2; 1.

R PFINTS; PR00265; INTERLEUKIN2.

R PFODOM; PD003649; Interleukin-2; 1.

R PTODOM; D003649; Interleukin-2; 1.

R PROSITE; PS00444; INTERLEUKIN_2; 1.

SEQUENCE 155 AA; 17605 MW; EEEB2DE18F5469AA CRC64;
                                                    Matches
                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                         Capra hircus (Goat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Capra.
                                                                                                                                                                                                                                                                                                                                                                    01-MAR-2001 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
INTERLEUKIN 2.
                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                       NCBI_TaxID=9925;
 21
                                                 Local Similarity
les 16; Conserv
              2 APTSSSTKKTQLQLEHLLLDLQMILNGINN 31
APTSSSTGNTMKEVKSLLLDLQLLLGKVKN
                                                 Conservative
                                                             52.0%;
                                                                                                                                                                                                                                                                                                                                                                                  16,
19,
                                                ; Score 79; DB (; Pred. No. 0.00) 6; Mismatches
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Last
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 50
                                          DB 6,
0.00035;
8;
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Search completed: October 25, 2002, 15:49:24 Job time: 28 secs

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